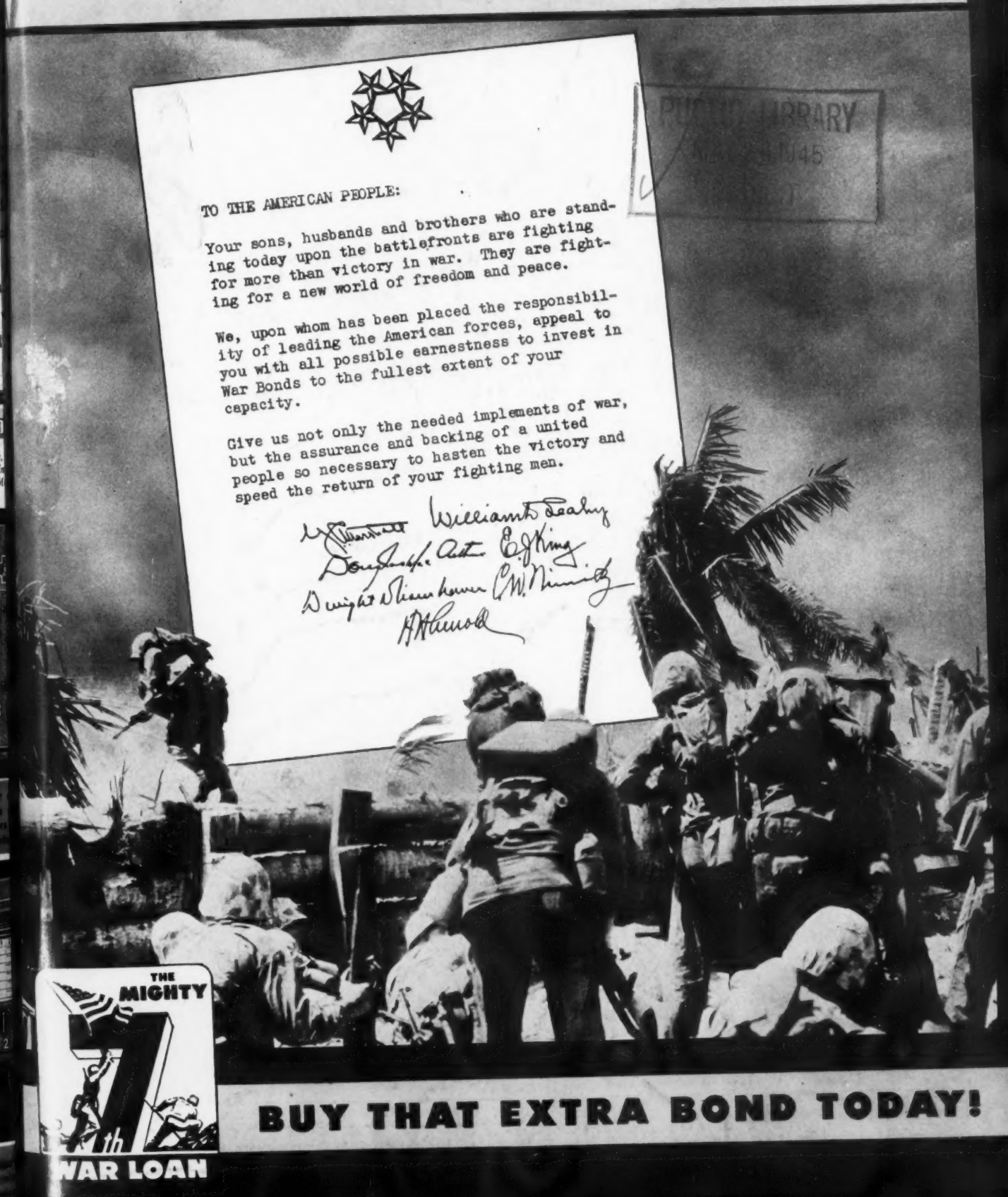
ECHNOLOGY DEPT

TEXTILE WORLD

MAY • 1945


TO THE AMERICAN PEOPLE:
Your sons, husbands and brothers who are standing today upon the battlefronts are fighting for more than victory in war. They are fighting for a new world of freedom and peace.
We, upon whom has been placed the responsibility of leading the American forces, appeal to you with all possible earnestness to invest in War Bonds to the fullest extent of your capacity.
Give us not only the needed implements of war, but the assurance and backing of a united people so necessary to hasten the victory and speed the return of your fighting men.
Dwight D. Eisenhower
H. H. Arnold
THE MIGHTY 7th WAR LOAN
BUY THAT EXTRA BOND TODAY!

There Will Come A Day...
When Your Problem Is Cash!

You will face different buying, selling and credit conditions. New problems usually mean a changed balance sheet. Assure your business adequate cash and be prepared to meet whatever conditions confront you. Why not consult us now?

COMMERCIAL FACTORS CORPORATION

Fred'k Vietor & Achelis, Inc. Established 1828

Schefer, Schramm & Vogel Established 1838

Peierls, Buhler & Co., Inc. Established 1893

TWO PARK AVENUE, NEW YORK

EUGENE G. LYNCH, 80 FEDERAL STREET, BOSTON, MASS.
T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

THE CFC PLAN IS NOT LIKE ANY OTHER FACTORING SERVICE . . . THE DIFFERENCE IS IMPORTANT

TEXTILE WORLD, Vol. 95, No. 5, May 1945. Published monthly by McGRAW-HILL PUBLISHING CO., INC. (Bragdon, Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. RETURN POSTAGE GUARANTEED. Editorial and Executive Offices 330 West 42nd Street, (18) N. Y. Allow at least ten days for change of address.
Subscriptions: United States and Possessions, and Latin American Republics, $1.50 a year, $2.00 for two years, $3.00 for three years. Canada $2.00 a year, $3.00 for two years, $4.00 for three years. Great Britain and British Possessions 12 shillings for one year, 17 shillings for three years. All other countries $2.00 for one year, $4.50 for three years. Please indicate position and company connection on all subscription orders. Entered as second class matter August 25, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in U. S. A. Twenty-five cents per copy

Good News!

Better Deliveries on Spinning Rings

In line with the heavy demands brought upon the Textile Industry by war conditions, Draper has maintained a firm policy of giving the mills the best possible service on maintenance and operating supplies.

An extraordinary volume of business and wartime handicaps caused our deliveries on spinning rings to fall behind for a time. Our ring business is still very large, but lately we have been able to arrange our production departments to cope better with the delivery situation.

Today we Can Make Prompt Deliveries on Spinning Rings.

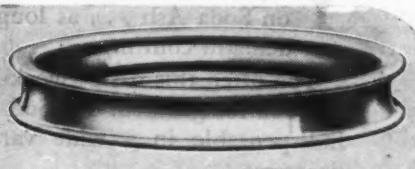
START your new Ring Replacement Program NOW.

Overtime and continuous running must have left your rings in a worn condition.

Systematic ordering—spreading shipments over a period of time—will not disrupt your present production.

Installing new rings will better prepare you for Post War Business.

Curved Web Ring



The curved web gives a greater clearance between horn of traveler and web of ring to prevent "back-tracking," and is especially helpful on coarse yarns where heavy travelers are run and "back-tracking" is a common trouble.

Equip with
Draper Mirror Finish Rings
for all around Quality and
Performance

SMOOTHER RUNNING LONGER LASTING

Draper Corporation
Hopedale Massachusetts
Atlanta Ga Spartanburg S C

"what! you mean I can't buy all the Soda Ash I want?"

YES, MR. INDUSTRIALIST, that's the situation on Soda Ash . . . as long as present heavy war demand continues.

Too often this basic "work-horse" of industry is taken for granted. Yet Soda Ash is absolutely indispensable in a wide variety of industrial processes.

What has happened to all the Soda Ash? It has gone into vastly expanded production of glass containers to save scarce metals. Into the manufacture of aluminum and other metals vital to war production. Into the making of explosives. Into the manufacture of chemicals, pulp and paper, textiles, soap and soap powders, water softeners, cleansers and literally hundreds of miscellaneous materials.

Despite war's complications, alkali manufacturers have set an enviable record in supplying the steadily expanding Soda Ash requirements of industry. And Mathieson, playing no favorites, has followed a policy in its commitments of "cutting the cloth to fit the pattern", is continuing to take care of its contract customers, large and small, with little or no occasion for late deliveries or other disappointments . . . regrets only that its production facilities have not been great enough at all times to serve all potential Mathieson customers.

Yes, Mr. Industrialist, if they ever start pinning medals on industrial products for valiant war service, Soda Ash will sport a chest full! Think of that if you haven't been able to buy all the Soda Ash you want!

Mathieson
CHEMICALS

THE MATHIESON ALKALI WORKS (INC.)
60 East 42nd Street, New York 17, N. Y.

Soda Ash ... Caustic Soda ... Liquid Chlorine ... Bicarbonate of Soda ... Chlorine Dioxide ... Ammonia, Anhydrous & Aqua ... HTH Products ... Fused Alkali Products ... Synthetic Salt Cake ... Dry Ice ... Carbonic Gas ... Sodium Chlorite Products ... Sodium Methylate

TABLE OF CONTENTS

Classified According to Reader Interest

← MILL DEPARTMENTS — FIBER DIVISIONS →

FEATURE ARTICLES

YARN PRODUCTION	WEAVING	KNITTING	FINISHING	ENGINEERING	MISCELLANEOUS		PAGE	COTTON	SYNTHETICS	WOOL	MISCELLANEOUS
Y	W	K	F	E	M	TRUMAN Faces Another Enemy (Editorial)	4	C	S	W	M
Y	W	K	F	E	M	MATERIALS HANDLING Is Vital	97	C	S	W	M
Y	W		F	E	M	PROTEIN FIBERS from Many Materials	103		S		
Y						"Get More WOOL TOP!" Says Gen. Gregory	104			W	
Y	W			E	M	Tension Vibrator Compares TIRE CORDS	107	C	S		M
			F		M	New VISUAL BRILLIANCE from Fabrics	110		S		
Y						COTTON COMBING, Quality Prerequisite	112	C			
Y	W		F	E	M	Trailers and Nursery Relieve MANPOWER	114	C	S		
Y						Control INDIRECT LABOR in Spinning	116	C			
				E		Color Dynamics in MACHINE SHOP	119	C	S	W	M
Y						COTTON PROPERTIES Evaluated	123	C			
			F		M	Accurate COLOR MEASUREMENT Possible	127	C	S	W	M
		K				High Standard Vital to NO-SEAM NYLONS	133		S		
Y	W	K	F	E	M	KEY EMPLOYEES Developed	135	C	S	W	M
Y						Precision WINDING—Wind, Lay, and Gain	137	C	S	W	M
	W	K	F		M	FINISHES Make Insect Netting Acceptable	139	C	S		
Y	W	K	F	E	M	Textile Committees Abroad on MISSIONS	141	C	S	W	M
		K				HOSIERY PROBLEMS Are Being Solved	208	C	S	W	
Y	W	K	F	E	M	Textile Mill Jobs for 16-17 Yr. WORKERS	210	C	S	W	M
						KINKS AND SHORT-CUTS					
Y			F	E		EMULSION Mixing Tank	150	C	S	W	
	W					Frame Stops Loom When HARNESS Breaks	150	C	S	W	M
Y	W	K	F	E	M	Handy Cleaning BRUSH	152	C	S	W	M
	W					Separators Prevent Bruised QUILLS	152		S		
				E		Saves Time for LATHE OPERATORS	152	C	S	W	M
Y	W	K	F	E	M	HOLDER Made for Tools Most Used	152	C	S	W	M
	W					HARNESS Adjustment for Entering Frame	154	C	S	W	M
	W					PICK-SHAFT Bearing Supported by Brace	154	C	S	W	M
				E		Jig Useful to DRILL End of Shaft	154	C	S	W	M
	W					Aids Lifting Loom LET-OFF LEVER	154	C	S	W	M
Y						Forms Push COTS on Spinning Rollers	156	C	S	W	
	W					Increase Life of PICKER STICKS	156	C	S	W	M
Y	W	K	F	E	M	Hook Clears Stopped-Up OIL HOLES	156	C	S	W	M
						IN OTHER DEPARTMENTS					
Y						Stop Motion for Cotton CARDS	143	C			
			F			INFRA-RED Dryer	143	C	S	W	M
	W					Plastic Reinforced SWEEPSTICK	143	C	S	W	M
Y	W	K	F	E	M	Sapphire GUIDES for Textile Machinery	144	C	S	W	M
	W					Snag-Resistant ROLL COVERING	144		S		
				E		Spreader-Type STOKER	144	C	S	W	M
Y						COT Designed to Eliminate Eyebrowing	144	C	S		
				E		All-Steel LAMP FIXTURE	145	C	S	W	M
		K	F			Dry-Knitting NYLON SIZE	145		S		
	W					LOOM DRIVES to Use Multiple V-Belts	148	C	S	W	
Y						Device Will Not Insert MORE TWIST	162	C	S	W	M
Y						TWIST Inserted But Not Turns Per Inch	164	C	S	W	M
				E		Request Short-Cuts for MACHINIST	166	C	S	W	M
				E		Question About DE-IONIZED WATER	166	C	S	W	M
			F			COOPERATION Due to Resin Finishes	168	C	S	W	M
Y	W	K	F	E	M	Mill Man Asks for Written AGREEMENTS	168	C	S	W	M
	W					Take-Up and Let-Off for MONOFILAMENT	170		S		
Y						CARDING Cotton on Woolen System	172	C		W	
		K	F			Damaged KNITTED CLOTH	172	C	S		
			F			Resist Stains in Cotton FINISHING	176	C			
			F			RESIN Finishes for Flax Fabrics	178				M
	W					REED PLAN for Cotton Fabrics	180	C	S		

TEXTILE WORLD

MAY 1945 — VOLUME 95 NUMBER 5

A McGRAW-HILL PUBLICATION

Edwin D. Fowle.....Publisher and Editor

C. W. Bendigo.....Executive Editor
William B. Dall.....*Managing Editor*
Harold E. Reed.....*Assistant Editor*
Earle Mauldin.....*Southern Editor* (Atlanta)
C. M. Bowden...*Southern Editor* (Charlotte)
H. S. Knowlton....*New Eng. Editor* (Boston)
C. Norris Rabold.....*Consulting Editor*
Paul Wooton.....*Chief, Washington Bureau*
Gladys Montgomery.....*Washington Editor*
Robert M. Fink.....*Art Director*

William Buxman .....Manager

TEXTILE WORLD (formerly *Textile World Journal*) with which are combined *Textiles, Posselt's Textile Journal* and *Textile Advance News*. Published monthly. United States and Possessions and Latin American Republics, $1.50 a year; Canada and all other countries, $2. U. S. currency or 12 shillings. Single copy, 25c. Please indicate position and company connection on all subscription orders. Annual index in "Textile World Yearbook & Catalog."

McGRAW-HILL PUBLISHING CO., INC., Publication Office, 99 N. Broadway, Albany 1, N. Y. Editorial and Executive Offices, 330 W. 42nd Street, New York 18, N. Y.—JAMES H. McGRAW, *Founder and Honorary Chairman;* JAMES H. McGRAW, Jr., *President;* CURTIS W. McGRAW, *Senior Vice-President and Treasurer;* HOWARD EHRLICH, *Vice-President for business operations;* JOHN ABBINK, *Vice-President for editorial operations;* HENRY G. LORD, *Vice-President;* J. A. GERARDI, *Secretary;* J. E. BLACKBURN, *Director of Circulation,* Bragdon, Lord & Nagle Division—FRANK L. NAGLE, *Chairman;* HENRY G. LORD, *President.*

District Offices—Atlanta, Ralph C. Maultsby, Dist. Mgr., 1011 Rhodes-Haverty Building; Boston, Ralph L. Chisholm, Dist. Mgr., 1427 Statler Building; Chicago, M. C. MacKenzie, Dist. Mgr., 520 North Michigan Ave.; New York, Arch W. Fisher, Dist. Mgr., 330 West 42nd Street; Philadelphia, H. C. Harvey, Dist. Mgr., 16 South Broad Street; Washington, National Press Building.

Of this issue 16,675 copies were printed

Member of Audit Bureau of Circulations
Member of Associated Business Papers, Inc.

Contents copyrighted, 1945 by McGraw-Hill Publishing Co., Inc. (All rights reserved)

DEPARTMENTS

Book Reviews 160
Editorial 4
Free for the Asking.....220
Kinks and Short-Cuts.....150
Mill Maintenance 148
New Dyes and Chemicals.....145
News About Men.....226
News About Mills.....232
News About Suppliers.....240
News of the Month.....212
Pete and Bill.....159
Questions and Answers.....172
Round Table 162
Textile Equipment News.....143

THE *Long-Range View*

Truman Faces Another Enemy

Franklin Roosevelt wrestled with the depression, with the war, and with the ground-work problems of the peace. Into all three undertakings he threw the best effort of which he was capable—and that was sincere, courageous, and intelligent effort. Before he died at the pinnacle of his career, with a high place in history assured, he had the tremendous satisfaction of knowing that this war was won and that the thinking of the American public had risen rapidly to acceptance in principle of a strong international organization for preventing future wars.

The problems which greet Harry Truman upon initially taking office are certainly no greater than those which greeted his predecessor, as the millions who remember the dismal economic pit of 1933 will agree. Indeed, it is very unlikely that within the next four years there will arise any political or economic crises which must be met by such emergency action as necessarily characterized certain phases of the Roosevelt administrations. This is because, at the very worst, there is bound to be an appreciable interval between major wars and because the prosperity of American business is well assured for more than half a decade.

But if there is no need for emergency action, there is at least need for drastic action. In other words, if disasters are to be avoided in the years which follow the current tenure of Mr. Truman, far-reaching preventive measures must be established now. Speed is needed because peace fervor is strongest when the memory of war is fresh and because a period of prosperity is the most practicable time in which to institute reforms for preventing financial panics.

Detailed action on international security must, of course, be left largely to diplomats; but it is directly up to the leaders of the great industries, such as textiles, to tackle the job of eliminating the extreme fluctuations of the business cycle.

How much time is available for this task? The best thinking of officials in Washington who are now studying the business prospects of America at peace seems to be that the complete unwinding of the war economy involves four distinct phases. The first is the interval between V-E and V-J Days, when the cut-backs may be greater than the armed services are now willing to admit, but when all employees released from war work are likely to be reabsorbed quickly for civilian work (and many textile mills will continue to produce exactly the same fabrics, albeit for different customers). The second, which begins with V-J Day, involves a temporary strain while industry reabsorbs the returning veterans. The third is a five- or six-year replenishment boom, when manufacturers are at last fully geared to meet the needs of the threadbare civilian. The fourth and final phase arrives when production equals demand, and here will come the first real test of our ability to maintain (not to build) those "sixty million jobs."

Is it safe to assume, then, that we have a breathing spell during which there is no need to worry about the fourth phase? Hardly. In so far as the business cycle is concerned, we are probably now in a spot identical with the "defense" period which preceded the war. We cannot afford to lose a moment in designing and building the munitions with which to attack our strongest remaining enemy—depression.

Several "munitions" designs which involve government control have already been advanced. Two examples are a long-range program of public works and a flexible tax plan sensitive to business fluctuations. But those who believe we are heading for dictatorship and resulting "serfdom" through efforts to attain security by the sacrifice of individual freedom would prefer a feasible plan which is independent of government control.

The suggestion that the principle of insurance be applied to the problem by private enterprise has been made by TEXTILE WORLD (March, page 4). The use of insurance for attaining security of one sort or another is well-established practice in American business; and therefore there should be nothing startling in the proposal that it be applied to business income—that is, to a substantial portion of the income necessary to cover costs of production. At one extreme, a reader calls the plan "uneconomic"; while another, of far different view, writes, "Carry on!"

Carry on we must, along one route or another. It is no time for generalities; the need is for a well-planned, concrete program to be advanced now, accepted, and put into operation. Industry could render no greater aid to the new President in the efforts he must make to maintain a sound and harmonious America.

Edwin D. Fowle

WAX MAKES THE DIFFERENCE

in this new finish!

JOHNSON'S WAX-FORTIFIED INTERIOR FINISH gives you these 4 extra advantages!

1 *Greater mar resistance.* Remarkable ability to withstand scuffs and scratches.

2 *Stays clean longer.* Dust and dirt don't readily stick to a Wax-Fortified surface.

3 *Easier to clean,* when finally necessary. Because of the wax, dirt is easily wiped or brushed off.

4 *Satin-smooth, lustrous finish . . . no harsh glare.* Better light diffusion, easier on the eyes.

Because some materials in this finish are going into war production, we cannot supply you now, but will gladly give you further facts . . . help you prepare for future needs.

The Johnson laboratories have perfected this new patented Wax-Fortified maintenance finish which gives a rich, no-glare beauty, is exceptionally dirt- and wear-resistant, and amazingly easy to clean.

Wax protection for the life of the paint job

Johnson's Wax-Fortified Interior Finish is thoroughly impregnated with wax which is evenly distributed *all through* it, not just on the surface. As a result, the wax protection lasts as long as any finish remains—steps up maintenance efficiency, cuts maintenance costs. No special preparation is necessary for application. Brushability is improved because of the lubricating action of the wax. Broad coverage and great hiding power make for true painting economy.

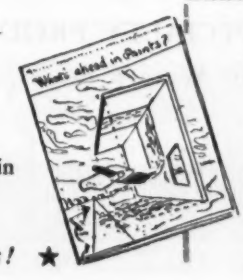
Repainting is no problem

Because the wax is impregnated in the finish, it does not retard adhesion. Repainting may be done with Johnson's Wax-Fortified Interior Finish, or with ordinary paint.

To meet the specific needs of factories, office buildings, department stores, food plants, restaurants, dairies, bakeries, schools and hospitals, special Wax-Fortified finishes have been developed. To get complete information, fill out and mail the coupon today!

Made by the makers of
JOHNSON'S WAX

S. C. JOHNSON & SON, Inc., Racine, Wisconsin



★ *Keep on buying EXTRA War Bonds!* ★

S. C. Johnson & Son, Inc., Dept. T-55, Maintenance Products Dept. Racine, Wisconsin

Gentlemen: Sure! "Wax Fortified" looks good to me. I'd like to see the "What's Ahead in Paints" brochure.

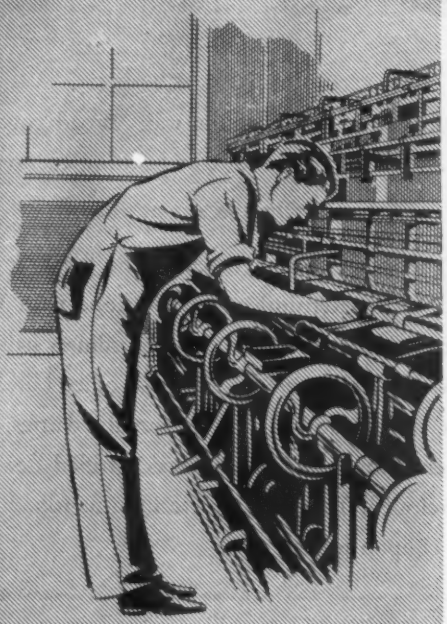
*Name*_____

*Address*_____

*Business or institution*_____

Say One Word...

and your mill is ready to run NYLON

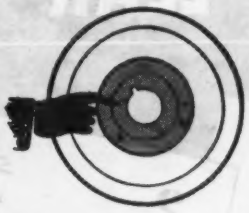


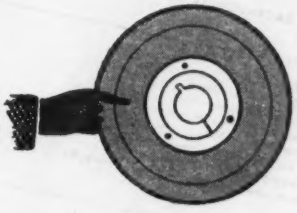
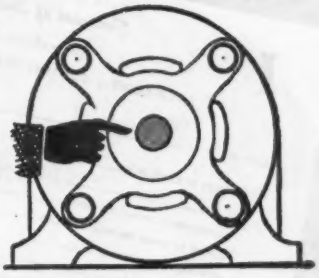
Specify Pro-Nyl size for your Nylon yarn and run it like Rayon yarn — DRY.

Like Rayon — Nylon yarn is treated in a single operation on existing equipment. No air conditioning — temperature control or titration necessary.

When you have Nylon — specify PRO-NYL

SPECIALTY PRODUCTS COMPANY
190 Warren Street, Jersey City 2, N. J.

This  locks

this  to this 

in 1 quick operation

Allis-Chalmers' new "Magic-Grip" with tapered split bushing is put on, aligned, locked to shaft *as a unit* — making it the fastest mounting and demounting sheave on the market!

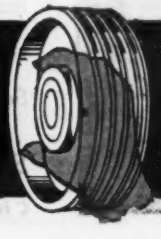
1 Place sheave on shaft. Slides on smoothly because clearance is provided by expanded bushing. There's *no* hammering — *no* forcing! Complete sheave and bushing unit comes intact—ready for quick, easy mounting.

2 Slide to desired position. Sliding easily, sheave can be placed *exactly* according to straight-edge . . . giving you true alignment with resulting smooth performance. A minimum of time is required.

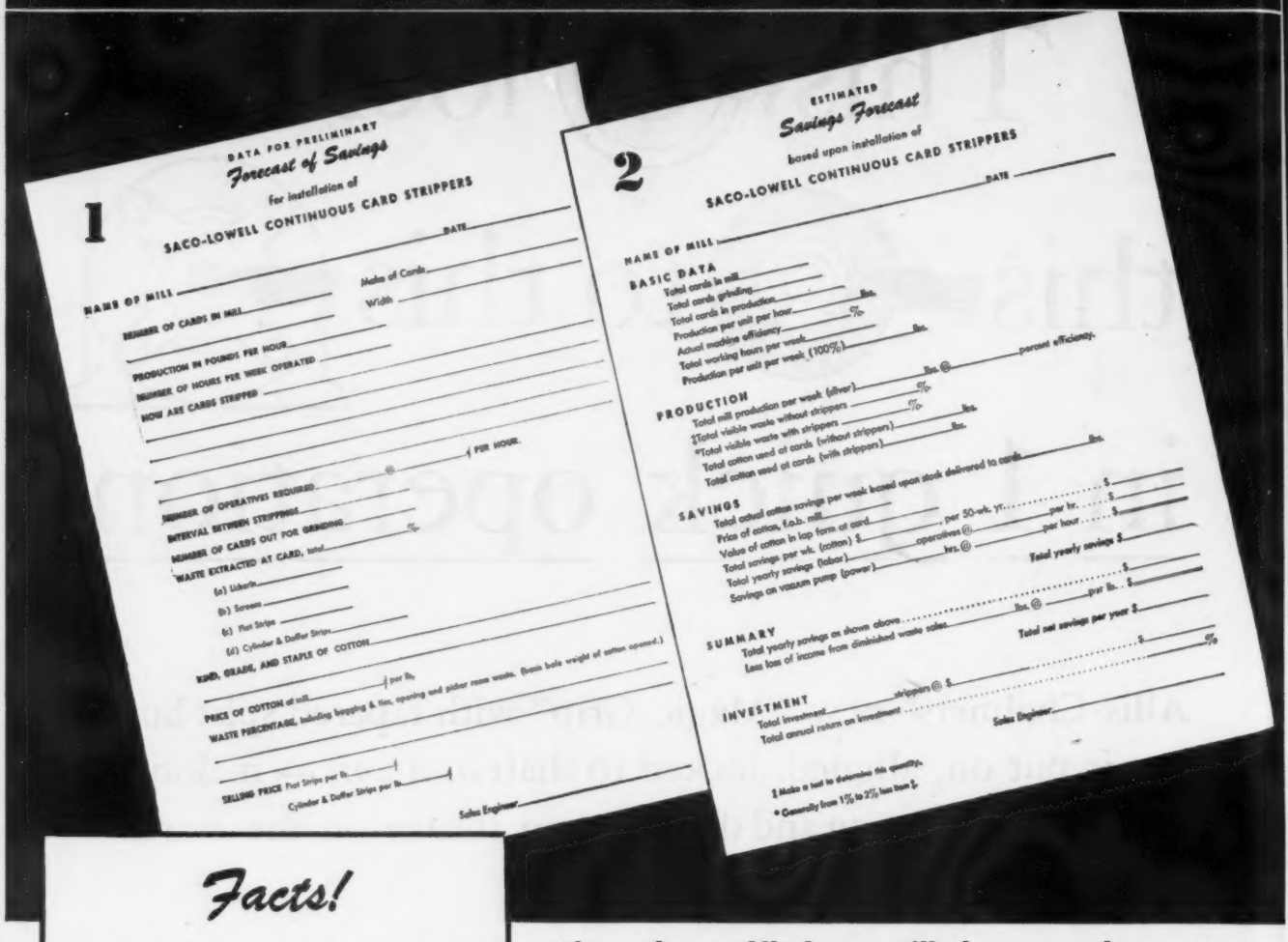
3 Tighten three capscrews — and it's ready to go! Entire sheave is locked securely to shaft and *grips like magic!* No set screws to damage shaft. Send for Bulletin B6310. Allis-Chalmers, Milwaukee 1, Wis.

A 1757

Allis-Chalmers Texrope

"MAGIC-GRIP"  SHEAVES

STOP THAT PROFIT LEAK IN THE CARD ROOM



Facts!

There are facts to prove that by equipping your cards with the Saco-Lowell Continuous Card Stripper you will . . . . .

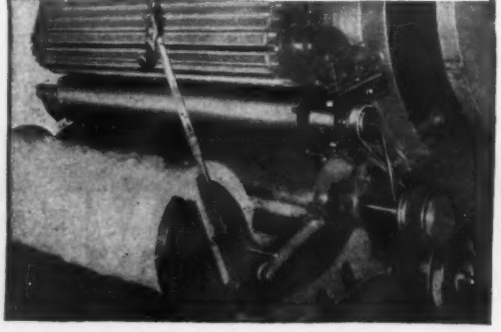
INCREASE PRODUCTION as much as 2½%.

ELIMINATE the loss of stock now going into cylinder strips.

RECOVER an additional 1% to 2% of the fibre processed.

and

on a two-shift basis these very **TANGIBLE SAVINGS** in operating cost, improved production and cotton saved will create **AN ANNUAL RETURN** on the investment in card strippers **AS MUCH AS 75% TO 100%.**



These forms filled out will show you how you can increase your profits and better your card room conditions.

1 . . . *fill out Form 1 to obtain the basic data.*

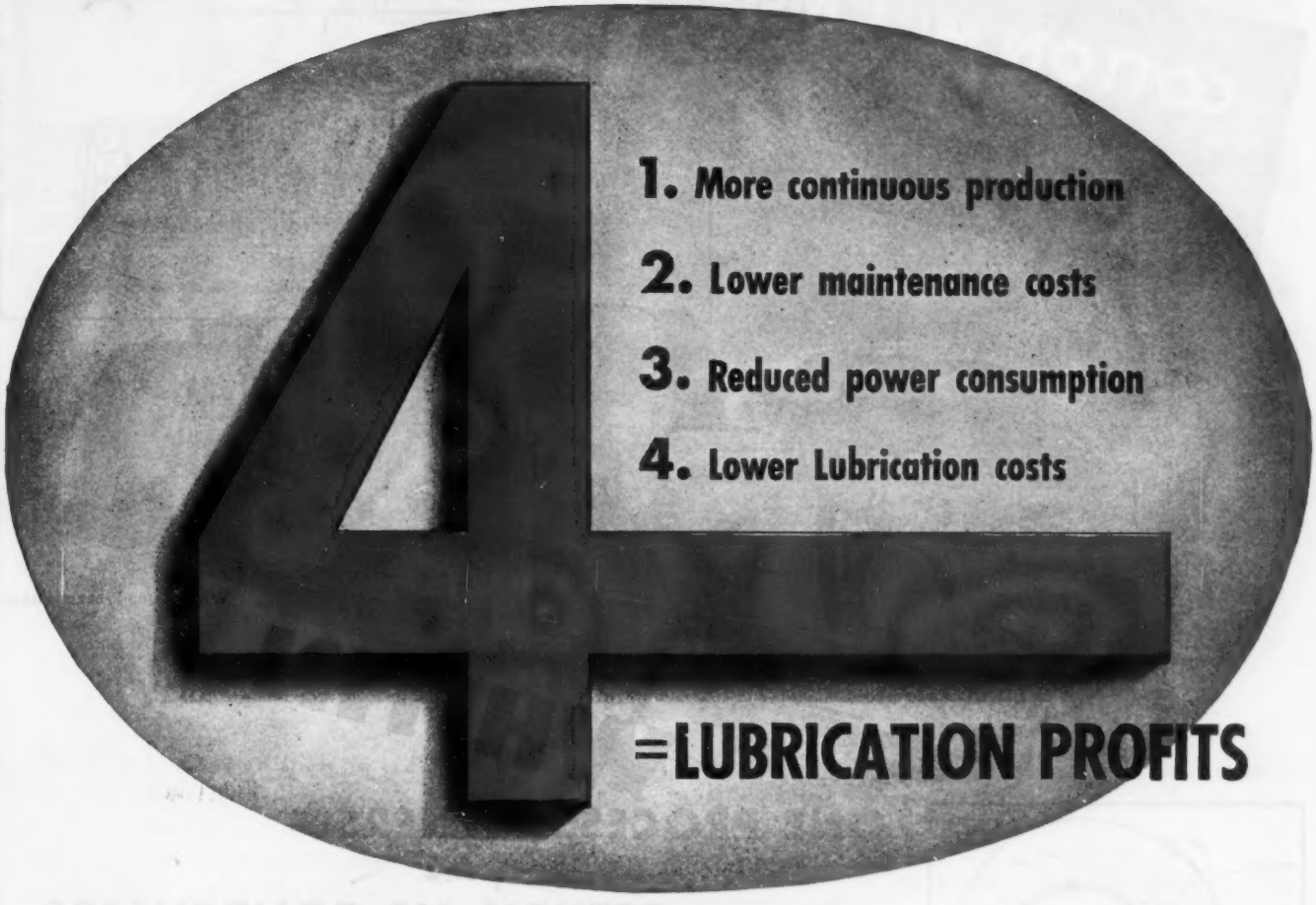
2 . . . *make the necessary calculations and fill out Form 2.*

If you will follow this simple procedure, you will be surprised at the savings in **Time, Cotton** and **Labor** which will be made possible by using a complete installation of the Saco-Lowell *Continuous* Card Stripper. Should you prefer to have our engineers work out the calculations required in Form 2, send us the data shown on Form 1. From the information you send us, we will complete the estimate and show you exactly what improvements and economies can be made by installing the Saco-Lowell *Continuous* Card Stripper on all your cards.

SACO-LOWELL SHOPS ***Boston, Massachusetts***

CHARLOTTE GREENVILLE ATLANTA

Your 4 Best Oil "Specifications"



Socony-Vacuum's 4-Factor Story

☛ No matter what machines you operate—you'll find that your best specifications for oil or grease are *ultimate results.*

☛ You're not interested in the oil or grease as such. You're after continuous production, uninterrupted by machine failure. You want lower maintenance costs from maximum machine protection, reduced power consumption from lower frictional losses and, finally, you want lower lubrication costs.

☛ In short, what you want are the 4 factors of Socony-Vacuum Correct Lubrication—the 4 factors that add up to lubrication profits for your plant.

☛ You can get these 4 factors now with Socony-Vacuum's *complete lubrication program* for your plant. For this program not only means the best quality lubricants for specific needs, but also includes skilled engineering counsel for scientific application, latest storage and handling methods, charts, controls and even progress reports of benefits obtained.

See your Socony-Vacuum representative and *specify* the 4-factor story for your lubrication dollars.

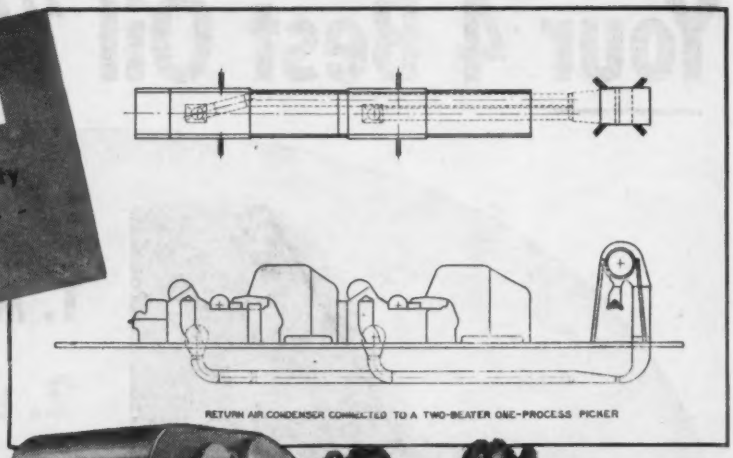
GARGOYLE Lubricants

Call in SOCONY-VACUUM *for Correct Lubrication*

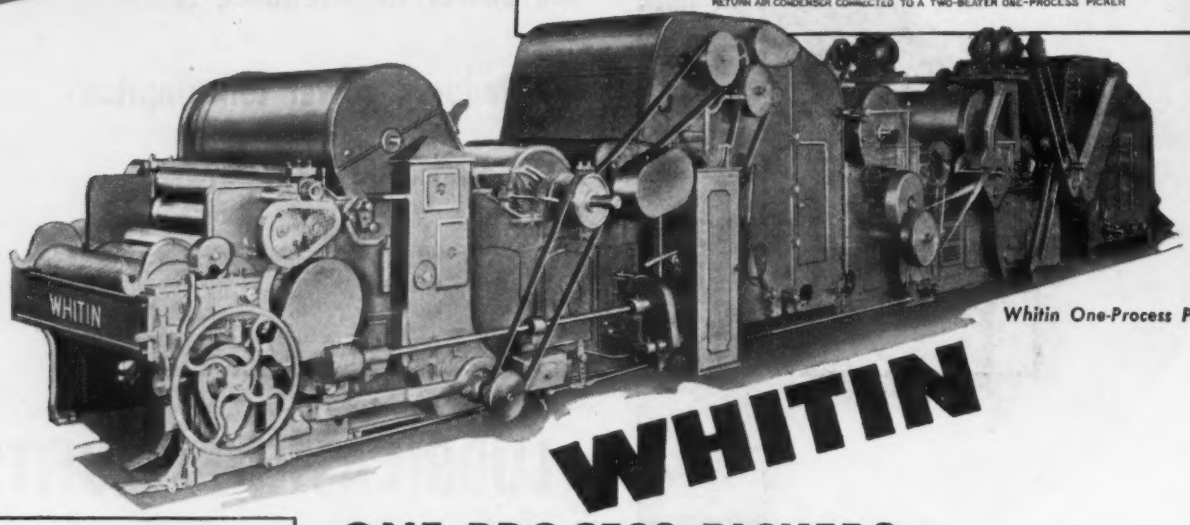
SOCONY-VACUUM OIL COMPANY, INC., Standard Oil of N. Y. Division • White Star Division • Lubrite Division • Chicago Division
White Eagle Division • Wadhams Division • Magnolia Petroleum Company • General Petroleum Corporation of California

COTTON MILL MEN

Be sure to include Quality *with* Quantity in your Picker Room plans by using - - -



RETURN AIR CONDENSER CONNECTED TO A TWO-BEATER ONE-PROCESS PICKER



Whitin One-Process Picker.

WHITIN

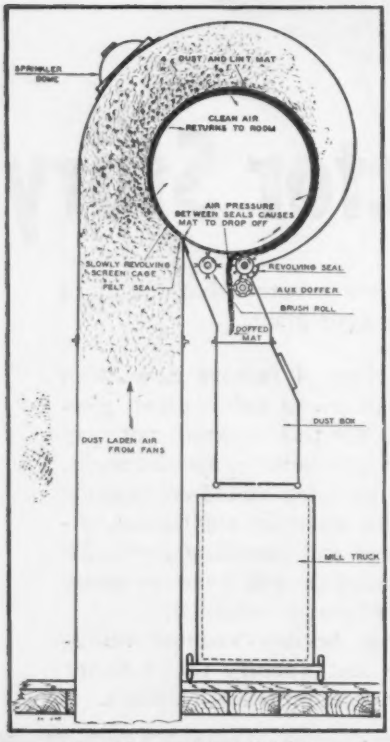
ONE PROCESS PICKERS
plus
RETURN AIR CONDENSERS

In the highly competitive days ahead *quantity* production alone will not be sufficient. It is of the utmost importance that your Picker Room production be of the highest possible *quality* to insure trouble free operation in subsequent processes.

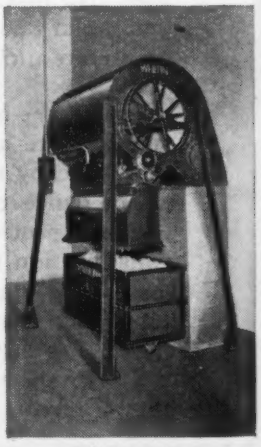
Whitin's One Process Picker can be made in a variety of combinations to suit particular mill conditions. This together with its many other desirable features will add materially to the quality of your Picker Room production. Consider these advantages:

(1) Thorough picking and cleaning of stock.
(2) Gentle but positive action on the fibers.
(3) Evenness of lap produced.
(4) Economical operation with high production.
(5) Rugged yet precise mechanical construction.

An ideal accessory for your Picker Room, for use in conjunction with One Process Pickers, is the Whitin Return Air Condenser. These units are of definite help in controlling dust conditions, maintaining proper humidification, and reducing the fire hazard in the Picker Room.



Cross Section View of Whitin Return Air Condenser.



Whitin Return Air Condenser.

WHITIN MACHINE WORKS
WHITINSVILLE, MASSACHUSETTS, U. S. A.
CHARLOTTE, N. C. **ATLANTA, GA.**

Remember Redwing H Cord Air Hose

NOBODY knows better than you do that keeping spinning frames free from lint and dust calls for air hose that's flexible and non-kinkable. That's why Goodyear Redwing H Cord Air Hose is on the job in many of the largest cotton mills in the country.

This top-quality air carrier is not only flexible and non-kinkable — it's better on every count — even better than it was prewar.

Why? Because Redwing is now built of a special synthetic rubber that is highly oil-resistant. Its tube won't flake off and clog tools and its cover won't crack from exposure to heat or cold. What's more — the synthetic used in building Redwing is highly resistant to both abrasion and cutting — the kind of material that takes the most severe jobs right in its stride.

Redwing H Cord Air Hose is also doing yeoman duty in shipyards, steel mills, textile plants, quarries, mines, and war industries of all kinds. Everywhere it's in use, it is giving an outstanding account of itself, smoothing the flow of production and keeping maintenance costs and need for replacement at the minimum. Try it yourself — and you'll soon learn why users are so enthusiastic about this heavy-duty hose.

Made in continuous lengths, in seven sizes up to 1½" diameter. Order from the G.T.M. — Goodyear Technical Man — or phone your nearest Goodyear Industrial Rubber Products Distributor.

Redwing—T. M. The Goodyear Tire & Rubber Company

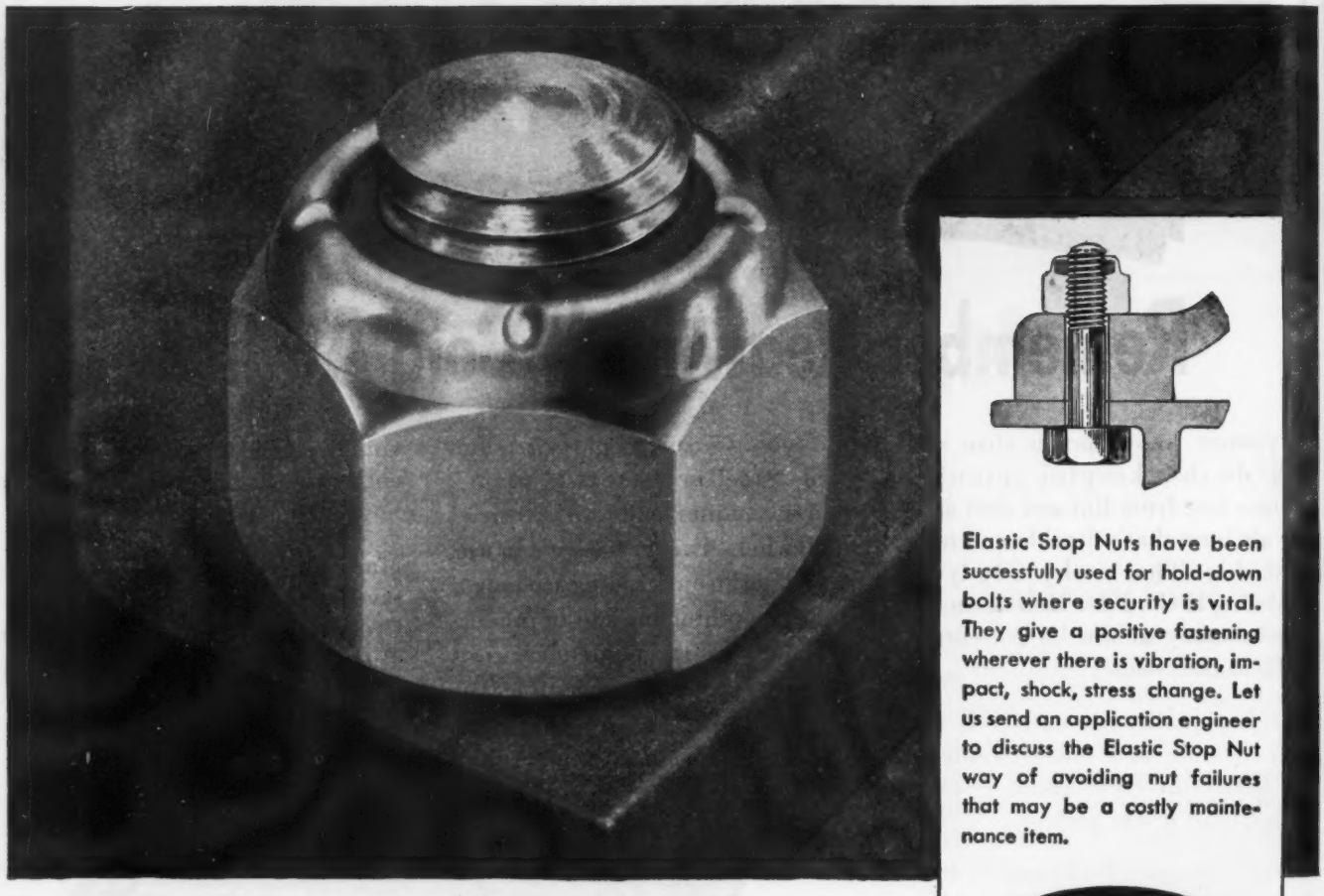
GOODYEAR INDUSTRIAL RUBBER PRODUCTS
GM-Specified
Redwing H Cord Air Hose
for Heavy-Duty Service
A Highest quality synthetic rubber tube, nonporous, impermeable to oil
B Multiple braids of cabled cotton cord give high safety factor
C Heavy-gauge, high-tensile cover resistant to cutting; non-oxidizing
GOODYEAR
THE GREATEST NAME IN RUBBER

★

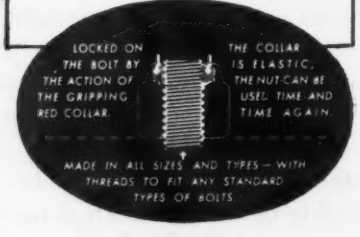
ALL OUT FOR THE MIGHTY 7TH—
BUY MORE WAR BONDS!

★

A HOLD-DOWN *for Keeps*



Elastic Stop Nuts have been successfully used for hold-down bolts where security is vital. They give a positive fastening wherever there is vibration, impact, shock, stress change. Let us send an application engineer to discuss the Elastic Stop Nut way of avoiding nut failures that may be a costly maintenance item.


LOCKED ON THE BOLT BY THE ACTION OF THE GRIPPING RED COLLAR.
THE COLLAR IS ELASTIC; THE NUT CAN BE USED TIME AND TIME AGAIN.
MADE IN ALL SIZES AND TYPES — WITH THREADS TO FIT ANY STANDARD TYPES OF BOLTS

This nut uses its head.

An Elastic Stop Nut carries its own insurance for a positive hold-down fastening — the elastic collar built into its head.

Here's how this device works:

The tough but resilient elastic collar forms itself to the individual bolt threads, grips them so tightly that the nut won't loosen up or back off even under the severest vibration.

Forget about cotter pins, lockwashers or any other auxiliaries when you use an Elastic Stop Nut. That means no chance of leaving off these extras as well as saving time in assembly and servicing.

Once on, an Elastic Stop Nut stays on. And it can be used over and over again without losing the grip of its headpiece.

Result: Economy in production and economy in use.

ESNA

TRADE MARK OF
ELASTIC STOP NUT CORPORATION OF AMERICA
Union, New Jersey
and Lincoln, Neb.
Sales Office—1060 Broad St., Newark 2, N.J.

ELASTIC STOP NUTS
Lock fast to make things last

Nothing Rolls Like a Ball . . .

. . . but Mrs. J. Woofington Smith-Smythe wishes she hadn't had to demonstrate it in just that way. Especially since that fundamental fact *is* being demonstrated in *thousands* of ways in every phase of war and industry.

For the *ball* bearing carries the loads on *free-rolling* steel balls—making possible the higher speeds, heavier loads and rigidity essential to the latest developments in war and industry.

That is why over 300 million New Departure Ball Bearings are at work in this war. That is why designers of new and better machinery are designing more *ball* bearings into it than ever before.

We believe that nothing but the *ball* bearing has so many and varied advantages—in so many applications. Particularly when backed by the technical skill and experience that goes into New Departure Ball Bearings.

NEW DEPARTURE
BALL BEARINGS

3358

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT • Sales Branches: DETROIT • CHICAGO • LOS ANGELES

Saturday, May 19th at 8:30 P. M. (E.W.T.)

ALLIS-CHALMERS

Pays Tribute to the

TEXTILE INDUSTRY

on the Famous

BOSTON POPS

RADIO BROADCAST

TUNE IN this tribute. Listen and be proud as a nation-wide network of 189 radio stations tells America of your industry's great contribution to the war effort... the production records you and your associates have helped to set ... the many ways your industry is helping to speed Victory!

It's a salute to you... to every man and woman working in America's great Textile Industry.

Check Your Local Paper for Time and Station

ALLIS-CHAL

Over 189 Stations of the Blue Network

90 Boston Symphony Musicians — Arthur Fiedler, Conductor

Allis-Chalmers dedicates these Saturday Night Concerts to the men and women of U. S. Science and Industry. We believe the Favorite Music of Yesterday and Today — played by members of the world's finest concert orchestra — is a fitting tribute to those who are doing so much to further American good living — so much to protect it!

A 1877

LMERS

"Engineering that Aids All Industry — Furthers American Good Living"

ELIMINATE EYEBROWS

with the "GRIP" of ARMSTRONG'S CORK COTS!

CLEARER waste is carried well back onto the clearer boards where it belongs by the extra "grip" of Armstrong's Cork Cots. Thus, when you're running on cork, you can be sure *no eyebrowing will occur!* And since there's no danger of waste dropping off or being nipped into the work, cleaner work results and less clearer picking is necessary.

Cork's high coefficient of friction not only eliminates eyebrows, but it results in more uniform drafting, stronger yarn, and reduced end breakage. However, extra grip is but one of the reasons why Armstrong's Cork Cots give you better running work and more poundage. These cots are highly resilient—"come back" quickly after grooving by top-roll laps or hard ends. They are uniform—there are no soft or hard spots to grip the yarn unevenly. And because cork compresses under roll weighting, Armstrong's Cork Cots maintain a true drafting surface.

In addition, these cots have a long initial life and can be rebuffed three or four times for extended service. Each rebuffing costs as little as one-half cent per roll.

Because they offer these vital operating advantages, Armstrong's Cork Cots are now serving more spindles than any other roll covering material. For the full story of how these cots can help you maintain peak production, see your Armstrong representative. Or write Armstrong Cork Company, Textile Products Department, 8305 Arch Street, Lancaster, Pennsylvania.

BETTER RUNNING WORK

— MORE POUNDAGE

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

SANDOZ PRESENTS *the color achievement of the month*

Swank Suede BY HOCKANUM

Lustrous color adds not a little to the sophistication and charm of this smooth suede cloth by Hockanum, makers of woolens of beauty, quality and lasting wear.

Sparkle in discreet colors . . . is a tribute both to weaver and dyer. Sandoz, supplier of dyes to many a fashion leader, is glad to assist its customers in the selection of colors to achieve effects of special distinction.

Sandoz technicians have also been *inventive* through the years, in "thinking ahead with textiles." Sandoz first developed a complete range of Metomega Chrome colors, of particular assistance in reducing boiling time (often by 50%) and expediting the development of correct shading.

Another example . . . especially for woolens . . . is Sandoz *Levana*, so unusually effective in stripping and redyeing operations on woolen fabrics.

Come to Sandoz to fill *your* current needs for dyes . . . acid, chrome and direct . . . or auxiliary chemicals for all natural and synthetic fibres. Sandoz application laboratories are located in: New York, Boston, Philadelphia, Los Angeles, Charlotte, Toronto, with stocks in those cities.

Other branches: Chicago, Paterson, and Providence.

Watch for next month's color achievement, featuring the work of another Sandoz customer.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

SANDOZ *thinks ahead with textiles*

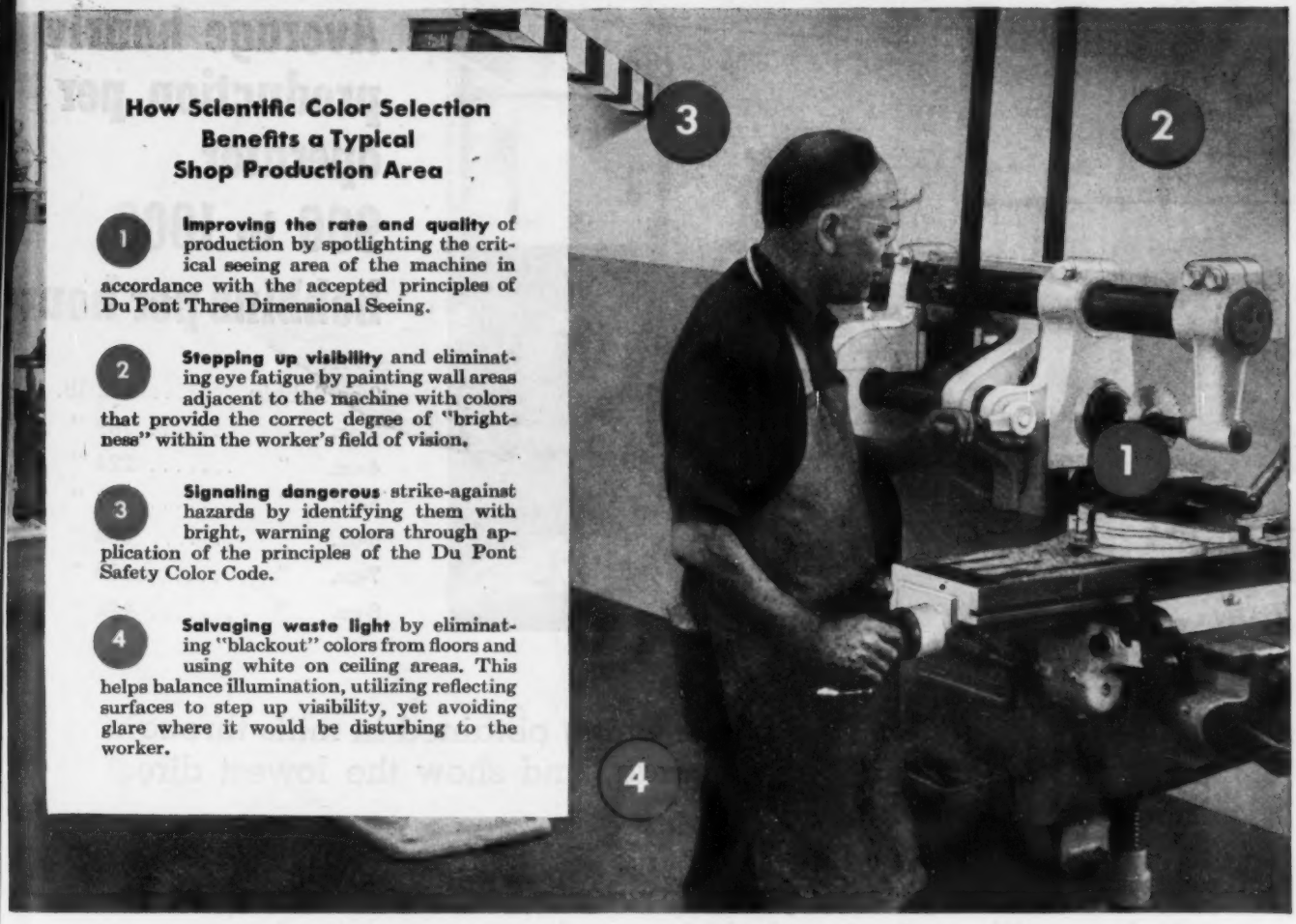
SANDOZ

1945

FOR TOMORROW'S
SUPERFINISHES...
PERKINS
B. F. PERKINS & SON, INC.
HOLYOKE · · · MASSACHUSETTS

Du Pont Announces

COLOR CONDITIONING


How Scientific Color Selection Benefits a Typical Shop Production Area
1 Improving the rate and quality of production by spotlighting the critical seeing area of the machine in accordance with the accepted principles of Du Pont Three Dimensional Seeing.
2 Stepping up visibility and eliminating eye fatigue by painting wall areas adjacent to the machine with colors that provide the correct degree of "brightness" within the worker's field of vision.
3 Signaling dangerous strike-against hazards by identifying them with bright, warning colors through application of the principles of the Du Pont Safety Color Code.
4 Salvaging waste light by eliminating "blackout" colors from floors and using white on ceiling areas. This helps balance illumination, utilizing reflecting surfaces to step up visibility, yet avoiding glare where it would be disturbing to the worker.
1
2
3
4

The scientific use of paint to improve employee efficiency and morale

HERE IS A TESTED, scientific color plan for your entire plant. Results already obtained from applications in typical industries have proved beyond doubt that Color Conditioning can play an important part in increasing employee efficiency, improving product quality, reducing personal injuries and fostering better employee-management relations.

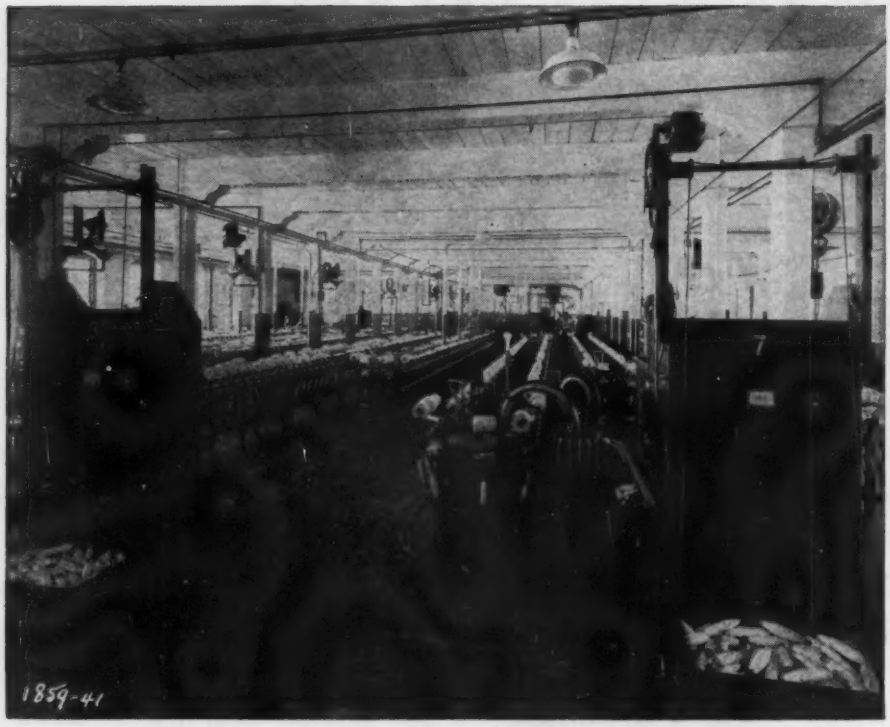
Color Conditioning is practical, functional. It is not "interior decoration." It produces results by increasing operating efficiency. It improves seeing conditions, reduces eyestrain and fatigue. It salvages waste light. It warns against accident hazards.

At the present time, Du Pont is devoting its available raw materials largely to either war finishes or the manufacture of exterior paints in the public interest of protecting property against deterioration. It is not too soon, however, for you to plan to secure all the benefits of Color Conditioning as soon as materials are available.

Call in a Du Pont Paint Engineer or write to: E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

DU PONT
COLOR CONDITIONING
PAINTS
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

ABBOTT AUTOMATIC WINDERS



Winding Average hourly production per operator 900 to 1000 bobbins per hour

2-oz Bobbin	.....	112	lb.	hr.
3-oz. "	.....	169	"	"
4-oz. "	.....	224	"	"
5-oz. "	.....	280	"	"
6-oz. "	.....	338	"	"
7-oz. "	.....	380	"	"
8-oz. "	.....	448	"	"

These production figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

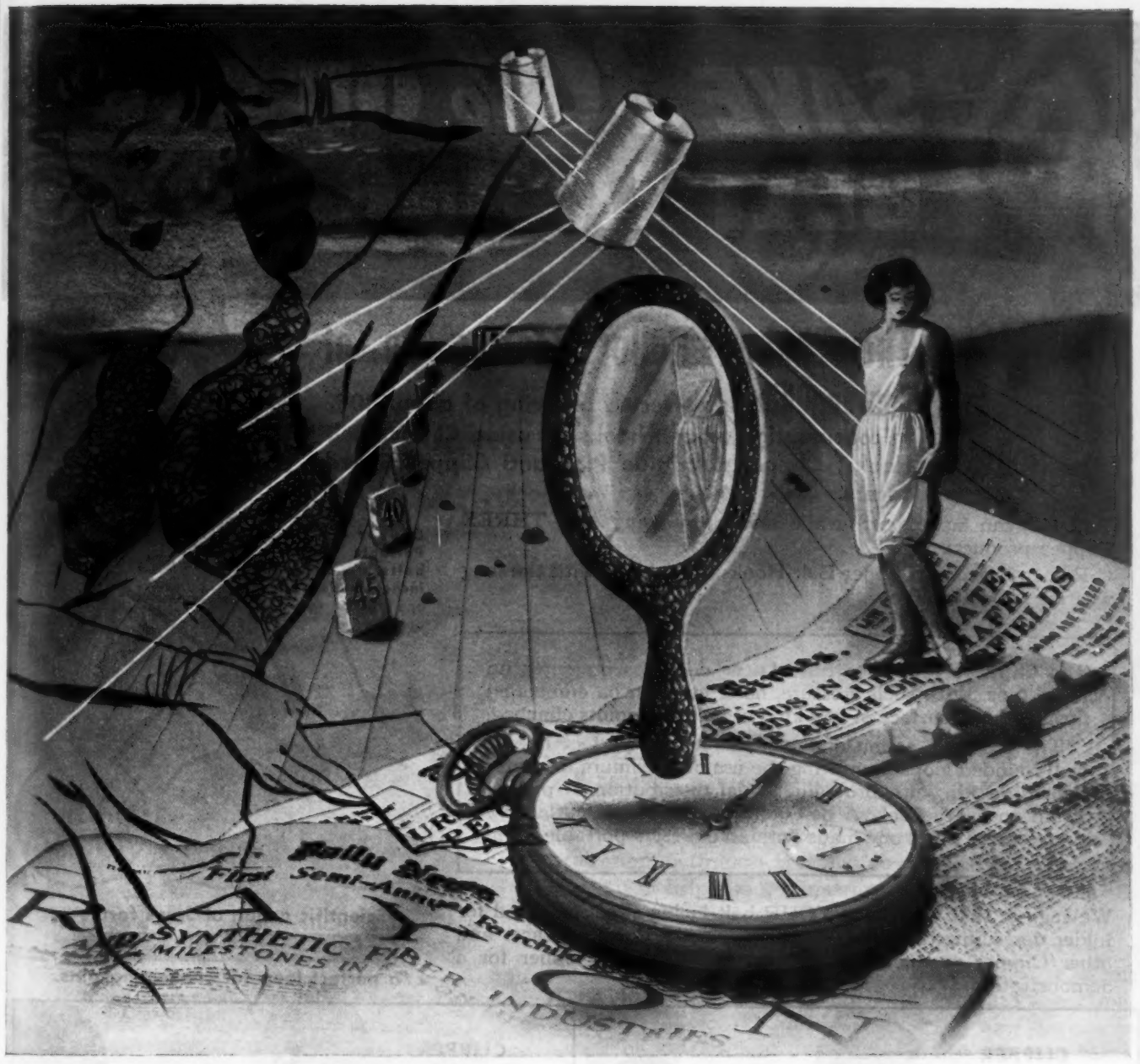
In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder, and move directly into warper creels or to twisters or automatic quillers.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, Mr. L. S. Ligon, Greenville, S. C.



IT SEEMS LIKE YESTERDAY...

Looking back over our 25 years from the sentimental standpoint, the time seems incredibly short. A mere snap of the fingers from then until now.

It's only when we think in terms of progress that the years seem so long and full. Rayon has developed from the days of "artificial silk," into one of the world's great industries. Its employment record is enviable. With its own growth, rayon has stimulated expansion in many allied fields. It has provided American women with the famous "best-dressed" tag.

Tubize, too, can check off the important milestones in its quarter century of progress. Pigment delustered yarns, for one. Abraded yarns. Early development of fine sizes.

Twenty-five years ago, only the most optimistic among us could have foreseen the wide and varied application of synthetic fiber. No crystal ball could have prophesied how successfully rayon would meet the many and varied split-hair specifications of World War II.

From here, the future looms big, but believable. Alone, or in combination with other fibers, rayon will reach further and further out into the fields of fashion, housewares, industry. Along with our rising standard of living, rayon will consistently follow its forward course of ever-expanding usefulness.

Tu-bize

TUBIZE RAYON CORPORATION · 2 PARK AVENUE, NEW YORK 16, N. Y. · *Acetate and Viscose Rayon Yarns and Fabrics*

SAVE 30% ON YOUR BELT LACING COSTS

The Timken Roller Bearing Co. of Canton, Ohio, has effected a saving of about 30% in consumption of belt hooks by using Clipper Belt Hooks, Clipper Lubrihide Pins and Clipper Speed Lacers.

You, too, can make worth-while savings by using ALL THREE Clipper products.

Remember, only Clipper Belt Hooks are packed with the long wearing **Lubrihide Pins.**

Clipper No. 9 Portable laces belts up to 6 inches wide in one quick, easy operation.

The **Clipper No. 9 Portable Lacer** develops pressures up to 16 tons. With such pressure, hook legs can be embedded flush with the surface of any kind of belt and points clinched.

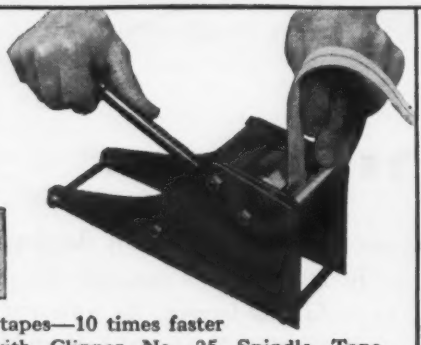
The scientific action of the jaws forms a perfect line of well rounded loops permitting the use of maximum diameter **Lubrihide Pin,** also providing equal distribution of pulling strain on every hook. A belt joint so made will outlast by two to three times one made with an old-style portable lacer.

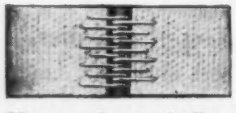
Scientific action of Jaws forms

a perfect loop for connecting pins.

We suggest that you check YOUR belt lacing situation. Send for folder describing the powerful Clipper No. 9 Portable Lacer and other Clipper products. Phone your Mill Supply Jobber for a demonstration!

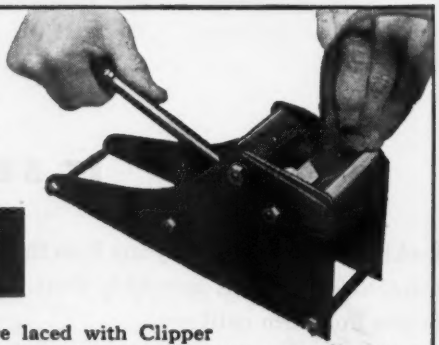
CLIPPER SPINDLE TAPE LACING EQUIPMENT

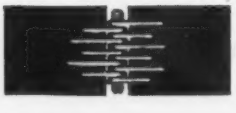




You can lace spindle tapes—10 times faster than stitching — with Clipper No. 25 Spindle Tape Hooks. The spinning frame is shut down only long enough to place the new tape on the pulleys and join the ends with the connecting pin — a short, easy operation. Tapes run true—last longer—run smoother—require less tension. VIBRATION is ELIMINATED.

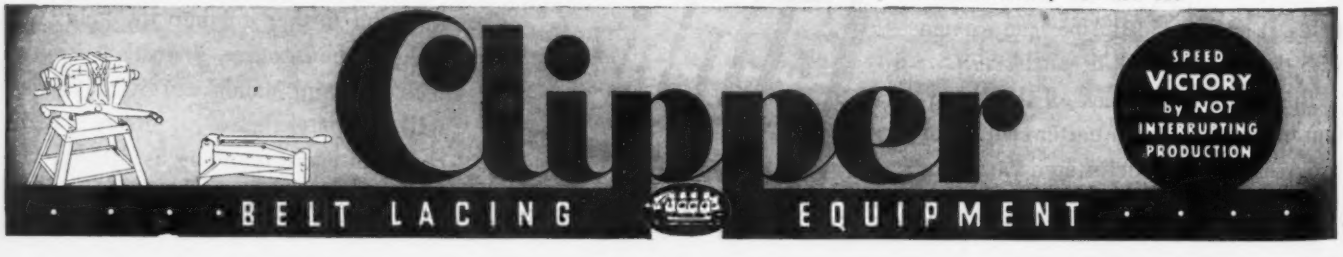
CLIPPER CONDENSER TAPE LACING EQUIPMENT





Condenser tapes are laced with Clipper No. 25 Condenser Tape Hooks. The joint is as flexible as the tape itself. Clipper Laced Condenser Tapes can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving, and cut to length. WRITE FOR INFORMATION.

CLIPPER BELT LACER COMPANY GRAND RAPIDS, MICHIGAN, U. S. A.



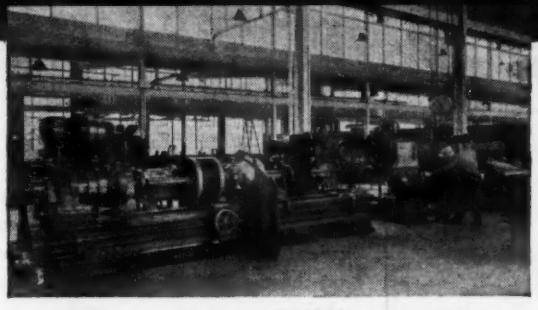
MEMO
TO THE TEXTILE INDUSTRY

When vital electrical equipment needs reconditioning or repair... Call for

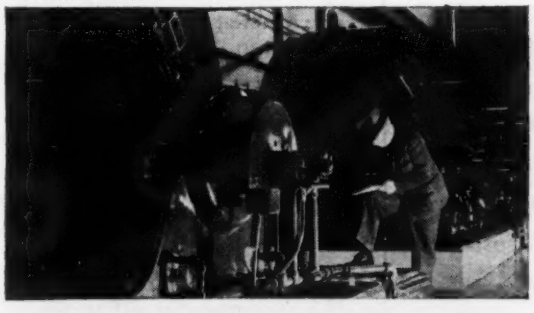
WESTINGHOUSE

FACTORY PROVED

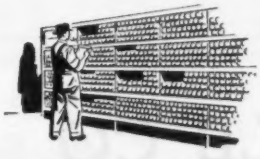
MAINTENANCE SERVICE



34 MODERN REPAIR PLANTS—These plants are fully equipped to handle repairs on any electrical equipment, which is not too large to be moved. Equipment includes special apparatus for High Frequency Testing, Dynamic Balancing, Metal Spraying, Phos-Copper Brazing, etc.



12 ENGINEERING AND SERVICE OFFICES—Factory-trained engineers are available to diagnose trouble, and work with your own engineers to speed up repairs. Portable field equipment assures accuracy.



17 RENEWAL PARTS WAREHOUSES — Conveniently located warehouses can give you prompt service on genuine Westinghouse renewal parts. A Maintenance Engineer is available to discuss any of your problems.

A Local Service for the Textile Industry

Whenever you need major electrical repairs in your plant—or repair and overhaul of equipment outside your plant—call Westinghouse. A nationwide maintenance organization, with local branches as close as your telephone, is ready to help you get apparatus back on the job in the shortest possible time.

This service offers 3-way flexibility to meet your needs: (1) *A Local Repair Plant*—completely equipped to handle repair and reconditioning of motors, generators, controls, transformers, etc. (2) *Field Engineering and Service* to handle major repair or overhaul jobs right in your plant. (3) *Renewal Parts Warehouses* to give you prompt service on genuine Westinghouse replacement parts.

To obtain any of these services, just phone your nearest Westinghouse Sales Office for a Maintenance Engineer.

J-96005-3

WHAT "FACTORY-PROVED" MAINTENANCE MEANS

This tag, attached to every repair job handled by Westinghouse, means that the work has been handled according to rigid factory standards. "Factory-Proved" methods and materials have been employed; the apparatus has been tested according to factory specifications; apparatus repairs carry the standard Westinghouse guarantee. This means better, longer-lasting repairs.

WESTINGHOUSE

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

RENEWAL PARTS—ENGINEERING SERVICE—REPAIRS

IN PACE WITH

Weaving PROGRESS

US SHUTTLES

HOW SOON improved design looms will be generally available depends pretty much on the durability of the Axis.

HOW FAR design engineers will go in adapting war-developed materials and mechanisms to loom manufacture remains to be seen. They have plenty up their sleeves. Best guess, however, is that changes will come along periodically, with each improvement introduced only after the "bugs" have been carefully worked out.

ONE THING SURE . . . there will be improved U S Shuttles to match every step forward in loom design, as it comes along. Simply history repeating itself, for U S has worked closely with loom manufacturers for the past 88 years. In the most advanced looms now in use, U S Shuttles are contributing to better speed and ease of operation, better fabric quality, and lower costs.

SO LOOK TO U S for tested refinements in shuttle design and performance for improved post-war weaving. And consult U S about your *present* shuttle requirements. A representative will call promptly at your request.

Four Reasons Why It Pays To Consult U S

MILL-WISE REPRESENTATIVES

U S representatives cover every field of textile production, and can offer thoroughly experienced advice on the use of U S products in any process.

CONTROLLED RAW MATERIAL

Extensive U S owned timber properties, including fine northern hardwood stands, allow close control of raw material selection and processing from the source.

AMPLE PLANT CAPACITY

Five manufacturing plants, in North and South locations closely keyed to textile production areas, are fully equipped to handle any size orders.

PRECISION STANDARDS

U S has cooperated with textile machinery manufacturers for 88 years – can meet the closest possible limits of tolerance in all tests for dimensions, weight, and balance.

US BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
GREENVILLE, S. C.
CHICAGO AGENT:
Albert R. Breen,
80 E. Jackson Blvd.

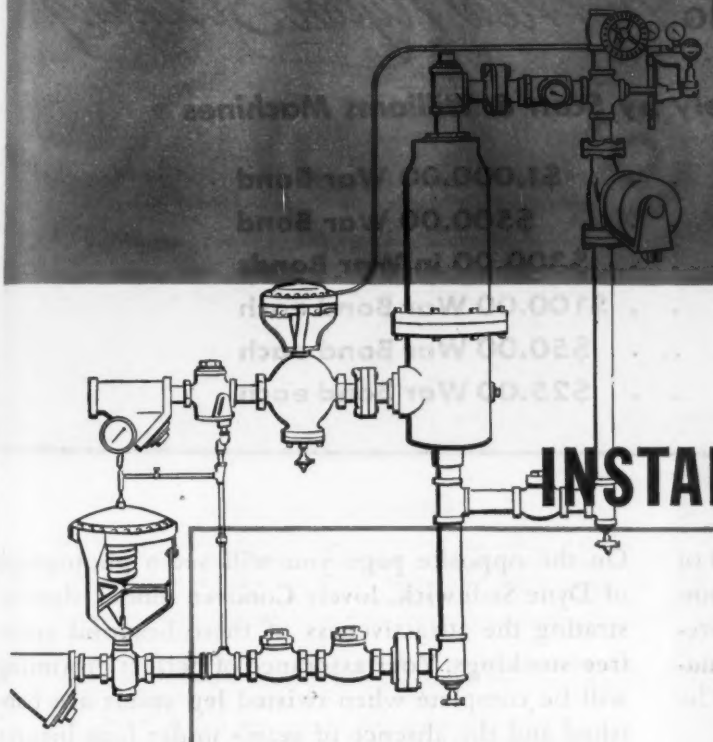
LAWRENCE, MASS.

CANADIAN AGENT:
W. J. Westaway
Montreal, Que. — Hamilton, Ont.

JOHNSON CITY, TENN.
CHARLOTTE, N. C.
ALABAMA AGENT:
Young & Vann Supply Co.
Birmingham

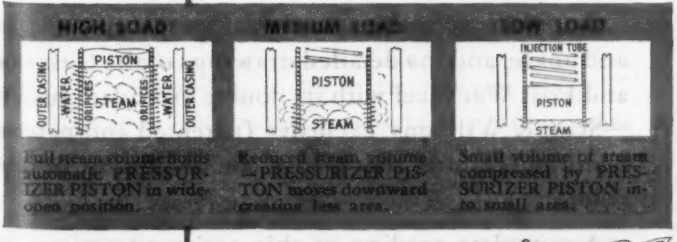
THE SEAL OF QUALITY AND SERVICE SINCE 1857
US

Exact TEMPERATURE CONTROL



WITH Pick INSTANTANEOUS HEATERS

Controlled delivery of any specified volume of hot water at exact desired temperature is possible instantly with the Pick steam injection heaters, because of the "Pressurizer Piston".



Full steam volume holds automatic PRESSURIZER PISTON in wide-open position.

Reduced steam volume—PRESSURIZER PISTON moves downward creating less area.

Small volume of steam compressed by PRESSURIZER PISTON into small area.

Utilizing the most efficient method of water heating, the direct injection of steam into water, this heater is built to meet all hot water demands.

As a PRIMARY HEATER, capable of delivering any specified volume of hot water from 10 to 200 gallons per minute.

As a SUPPLEMENTARY HEATER for "spot applications" — Designed to heat water to any temperature up to 180° Fahrenheit, it gives that extra heat when and where it is needed.

As a "BOOSTER" HEATER to augment overloaded or inadequate hot water facilities.

PICK INSTANTANEOUS hot water heaters are available in seven sizes, the smallest unit delivering a maximum of 10 gallons per minute, and the largest 200 gallons per minute, or any portion of this maximum rated capacity desired. "Custom-selected" to your specific needs, they can be obtained to operate on any existing steam pressure from 40 to 100 pounds.

Pre-engineered and factory-assembled, the PICK INSTANTANEOUS HEATER comes to you as a complete packaged unit, ready for immediate installation—It is fully covered by a uniform guarantee.

For complete information write for folder WH-10.

ARMY-E-NAVY

Pick HOT WATER HEATERS

Made by **PICK MANUFACTURING CO.**

WEST BEND, WISCONSIN, U. S. A.

$5,000.00

MATURITY VALUE

IN WAR BONDS

WILL BE AWARDED FOR NAMING *This New Nylon Stocking*

To Be Produced Exclusively by Scott & Williams Machines

First Prize	**$1,000.00 War Bond**
Second Prize	**$500.00 War Bond**
Third Prize	**$300.00 in War Bonds**
12 Prizes	**$100.00 War Bond each**
20 Prizes	**$50.00 War Bond each**
40 Prizes	**$25.00 War Bond each**

The women of America will experience the thrill of wearing a brand new type of nylon stocking as soon as nylon is again available—a stocking which represents so great an advance in the art of hosiery manufacture that it is indeed worthy to be called "The Stocking of the Future."

In order to obtain a name that truly reflects the superior qualities of this new stocking, Scott & Williams will award a total of $5,000.00 in War Bonds (maturity value) to winners of this contest. All you have to do is coin a name that does justice to this exquisite stocking. Your choice of a name and a statement of 100 words or less, telling why you agree that it will be "The Stocking of the Future" entitles you to compete for one of these attractive prizes.

Just imagine—a stocking of 15, 20 or 30 denier nylon, knitted on a machine even finer than magical 51 gauge—so perfectly shaped and molded that it fits the slenderest ankle without a shadow of a wrinkle, yet is amply proportioned at the top. Its complete absence of seams and its gossamer-like sheerness add glamour even to the most perfect legs.

On the opposite page you will see a photograph of Dyne Sedgwick, lovely Conover model, demonstrating the attractiveness of these beautiful seam-free stockings. Your assurance of perfect grooming will be complete when twisted leg seams are banished and the absence of seams under foot insures real walking comfort. Fabric of foot and ankle sections are equally sheer, with doubly strong heel and toe pockets where they are needed to resist abrasion. And these delicate stockings retain their shapeliness through weeks of successive washings!

Study the accompanying photograph of the foot and ankle, and the detailed drawings of the Gussetoe and Post War Heel with its double extended gussets —Scott & Williams' exclusive (patented and patents pending) features that assure you the utmost in foot comfort.

A complete reading of this entire advertisement will help you in the selection of a name and the preparation of your statement.

Read the rules carefully. You have 75 chances to win a substantial prize. Contest closes July 31, 1945. Mail your entry NOW.

1. Notice the added volume where needed, given by the gusset fabric knitted into each side of the toe section.
2. The right angles formed by the gusset wales (vertical stitches) and the wales of the toe fabric are the only method of giving the toe of the stocking ample fabric stretch in both length and width to assure cool comfort for active feet, even on hottest days.

These are patented features.

3. Notice how the sturdy heel fabric, while entirely out of sight, extends almost to the top of the shoe, covering the knob of the heel where abrasion might occur.
4. The heel gusset nearest the toe extends the heavier fabric under the entire ball of the heel.
5. Right-angled direction of wales (vertical stitches) at the beginning and end of heel prevent heel slippage up or down or to the side.
6. Exclusive angled wales give real comfort because of ample two-way stretch.
7. Upper heel narrowing smooths away every ankle wrinkle. These exclusive heel features are covered by applications in the United States Patent Office.

HERE ARE THE RULES

1. On one side of a plain sheet of paper, write your suggestion for a name which you think appropriate for the new nylon stocking without a seam, described in this advertisement. Immediately below the name write a letter of not more than 100 words telling . . . why you believe it will be *the* stocking of the future. Then print your name and address plainly. That's all!
2. You may submit as many entries as you wish, but each must be on a separate sheet of paper. No more than one prize will be awarded to a single contestant.
3. The contest is open to anyone in the continental United States or Canada, except employees of Scott & Williams, Inc., their advertising agencies, and their respective families. All entries must be the original work of the contestants, submitted in their own names. The contest is subject to all Federal, State and Dominion regulations.
4. All entries and ideas therein become the property of Scott & Williams Inc., to use as they see fit. No entries will be returned.
5. Seventy-five prizes totaling $5,000 in War Bonds (maturity value) will be awarded to the better entries as follows:

1st Prize.....	$1,000 War Bond
2nd Prize.....	$500 War Bond
3rd Prize.....	$300 in War Bonds
12 Prizes.....	$100 War Bond each
20 Prizes.....	$50 War Bond each
40 Prizes.....	$25 War Bond each

All the winners will be notified by mail and a list of winners will be published as soon as possible after judging has been completed.

6. The winning names will be selected by an independent organization of experienced contest judges and a group of prominent fashion authorities . . . on the basis of their originality and appropriateness for advertising and sales purposes. In case of ties, the 100-word letter will be the deciding factor . . . on the basis of aptness of thought, sincerity, interest and originality. The decision of the judges will be final.
7. This contest closes midnight July 31, 1945, and all entries must be *postmarked* before that date and received before August 10, 1945. Mail your entry to:

Stocking of the Future Contest
SCOTT & WILLIAMS, INC.
P. O. Box 23, New York 8, New York

Dyne Sedgwick, Conover Cover Girl, Wearing the New Scott & Williams "Stocking of the Future."

Announcing the new **TYPE S**

DAYCO ROLL COVERING

ESPECIALLY DESIGNED FOR SPINNING FRAMES WHERE EYEBROWING IS A PROBLEM

NEW DAYCO TYPE S FOR FLAT CLEARERS

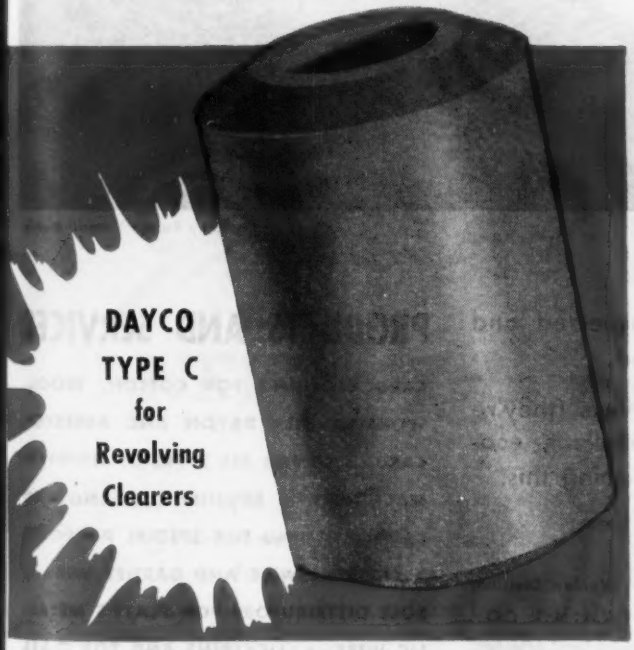
Here's another important contribution by Dayton to the Textile Industry . . . a companion roll covering to the standard DAYCO Type C . . . *the new Type S!* Offering all of the superior advantages of the Type C, the new Dayco Type S incorporates new features designed to eliminate eyebrowing. While this new Dayco Cot is just now being announced, it has undergone months of tests in actual mill operation that prove its unusual performance on spinning frames with flat clearers.

Read these Non-Eyebrowing Features of the New Type S Dayco Cot, Especially Engineered for Flat Clearers

1 Tests prove a noticeable reduction in number of ends down over other types of roll coverings.
2 Does not have to be rebuffed for the special purpose of retaining non-eyebrowing properties.
3 Regardless of the number of buffings, non-eyebrowing qualities are not impaired.
4 No treatment necessary other than normal buffing to secure satisfactory operation.
5 Gives equal long service between buffings.
6 Examination of clearer waste proves more foreign elements removed from yarn than other types of roll coverings.
7 Specially compounded for uniform wear, lengthening service life.
8 Tests prove non-eyebrowing features equally effective for special types of synthetic and synthetic blends of yarn.
9 Decreases flying lint in the spinning room.

Plus these Time-Tested Advantages You Get with the Popular Type C Dayco Cot

1 Improved drafting
2 No grooving—less ends down
3 Unaffected by temperature changes
4 One-piece tubular construction
5 Longer service life
6 Easier to apply
7 Proper cushioning
8 Lower net roll cost
9 Static-free
10 Oil resisting
11 Not affected by hard ends
12 Produces more uniform yarn



Write for Details Today

We want you to *see* for yourself, *prove* to yourself how much the new Dayco Type S Roll Covering will improve the performance of your spinning frames equipped with flat clearers. Write today for complete details.

The Dayton Rubber Manufacturing Company
401 Woodside Building, Greenville, S. C.

In hundreds of mills for more than seven years this outstanding Dayco Roll Covering has proved its superior operating efficiency and economy. Secret of its success is the smooth, tough synthetic compound developed by Dayton Rubber in 1938 . . . *unequaled today!*

Roll Coverings by

Dayton Rubber

REG. TRADE MARK THE DAYTON RUBBER MFG. CO.

THE MARK OF TECHNICAL EXCELLENCE IN SYNTHETIC RUBBER

Good Yarn REQUIRES Good Card Sliver

Photo by Robert Yarnall Richie

— and good card sliver requires good card clothing throughout the machine. Elementary — yes, but a fact too often overlooked under the pressure of present day production requirements.

Made by pioneers in the card clothing industry, Ashworth card clothing is GOOD; in fact, it has no superior. But the best of card clothing won't STAY good unless it is periodically inspected and repaired or replaced.

Ashworth Card Surveys (they're free) provide an efficient, economical method of doing this.

Ask us about them.

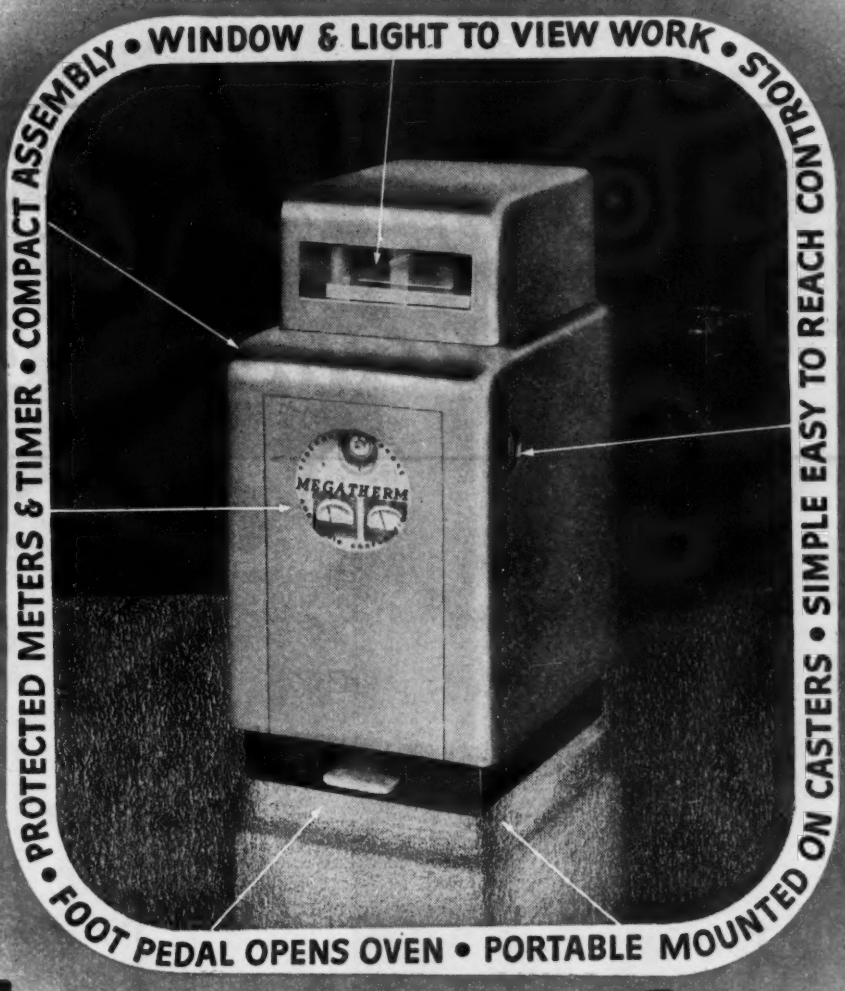
ASHWORTH BROS., INC. • Woolen Division;
AMERICAN CARD CLOTHING CO.,
Fall River*†‡ Worcester*‡ Philadelphia*†‡ Atlanta†‡ Greenville†‡ Charlotte†‡ Dallas†‡ (Textile Sply. Co.)
*Factory †Repair Shop ‡Distributing Point

PRODUCTS AND SERVICES

CARD CLOTHING FOR COTTON, WOOL, WORSTED, SILK RAYON AND ASBESTOS CARDS AND FOR ALL TYPES OF NAPPING MACHINERY • BRUSHER CLOTHING AND CARD CLOTHING FOR SPECIAL PURPOSES • LICKERIN WIRE AND GARNET WIRE • SOLE DISTRIBUTORS FOR PLATT'S METALLIC WIRE • LICKERINS AND TOP FLATS RECLOTHED • • • • • • • •

Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS


• WINDOW & LIGHT TO VIEW WORK •
• PROTECTED METERS & TIMER • COMPACT ASSEMBLY
• SIMPLE EASY TO REACH CONTROLS
ON CASTERS
• FOOT PEDAL OPENS OVEN • PORTABLE MOUNTED
MEGATHERM

Framed in Features

*NEW... THE 1 KW MEGATHERM**

Here is the Megatherm you have been waiting for . . . a compact dielectric heating unit designed for maximum performance.

Ideal for production line use in plastics processing... quick, uniform heating of plastic preforms permits free flow conditions in the mold . . . allows lowered closing pressures.

Fitting easily between molding presses, the new Megatherm is only 20 inches wide . . . mounted on smooth-running casters with a special lock down feature.

The Megatherm MD-1A is versatile . . . handles a wide range of materials and work sizes . . . heats plastics, rubber, rubber substitutes, wood, glue and other dielectrics . . . defrosts frozen foods, and shows great possibilities in the sterilization of pharmaceutical and similar products.

Write now on your company letterhead for data on the NEW 1 KW MEGATHERM.

FEDERAL TELEPHONE & RADIO — FTR

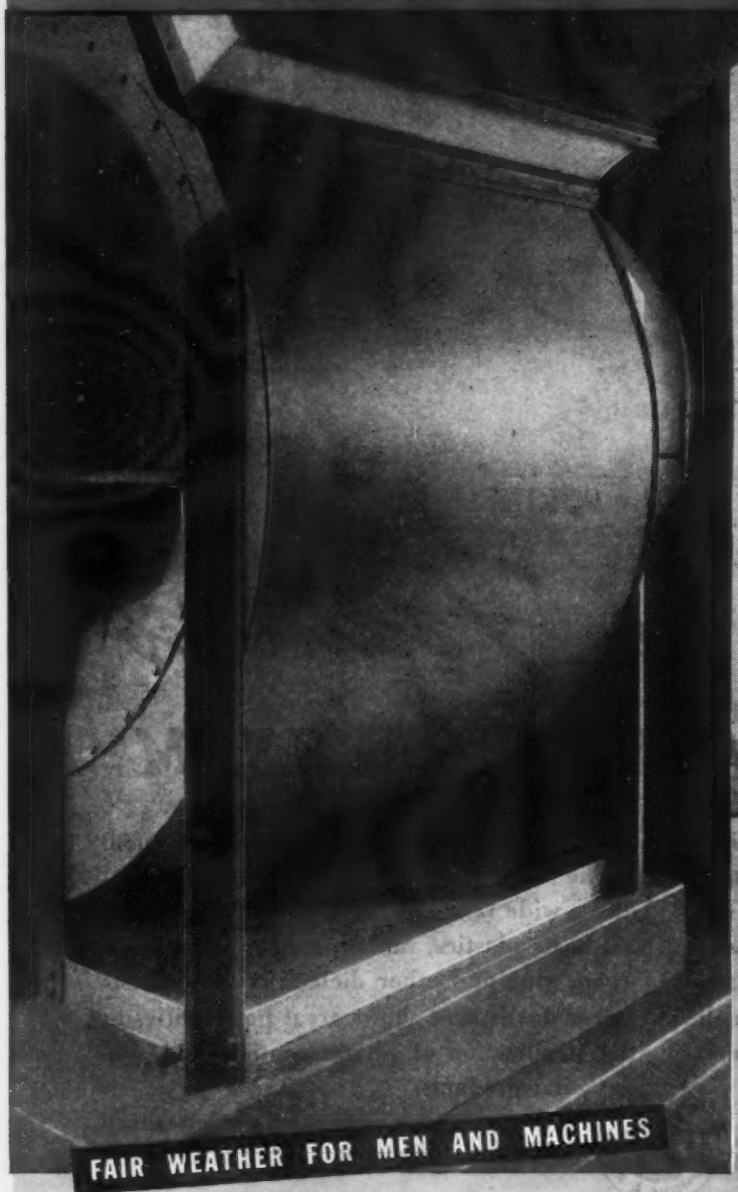
Federal Telephone and Radio Corporation

AN IT&T ASSOCIATE

Newark 1, N. J.

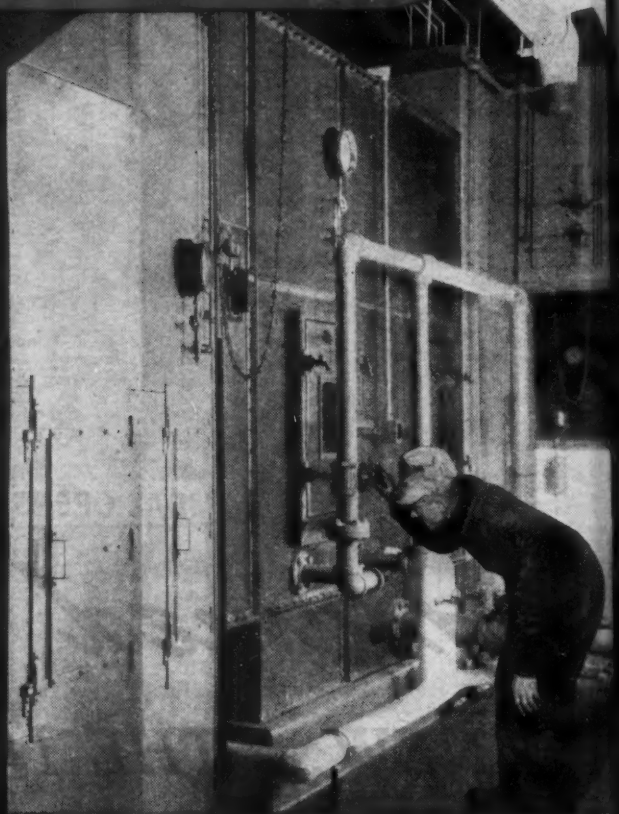
*Reg. U. S. Pat. Office

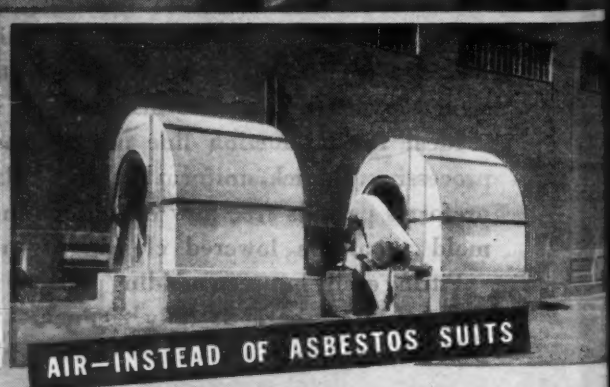
It's 100 to 1 we can help your business, too!



FAIR WEATHER FOR MEN AND MACHINES

Problem—a telephone building to house business and clerical offices as well as central station equipment. *Answer*—Sturtevant ventilation and humidification provides year-round comfort for workers and customers; Sturtevant air conditioning for equipment rooms—with temperature and humidity uniformly maintained to assure unfailing operation and longer life of the precision mechanisms.





AIR—INSTEAD OF ASBESTOS SUITS

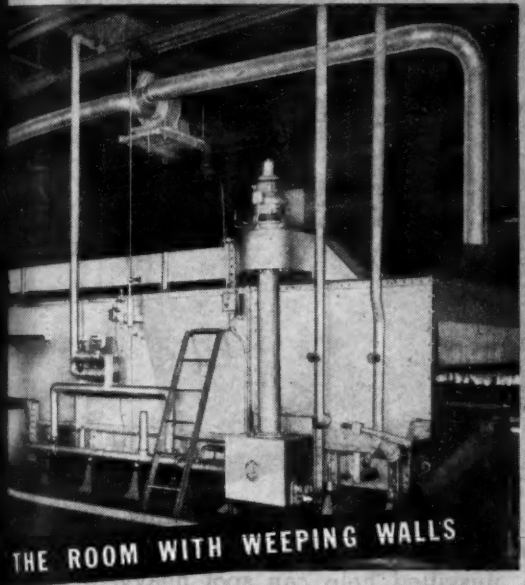
Workmen were unable to get near enough to tend giant aluminum reducing "pots". No wonder—each one released 100,000 btu's per minute. *The answer?* Bring in plenty of outside air—but it called for the biggest application of "air at work" we know of. 18 pot rooms use four fans each (they're big 15 footers—that deliver a quarter million cfm)—on a 24 hour schedule, a total of *945,000 tons of air a day.*

THE MILL THAT RAN A FEVER

Hundreds of forms on which stockings are dried kept this department in a "sweat"—saturated with steam vapor. *The answer* — a special Sturtevant Exhaust System with hoods over the forms to whisk away fog as soon as it's created. No absenteeism now. Workers earn more for themselves and the company.

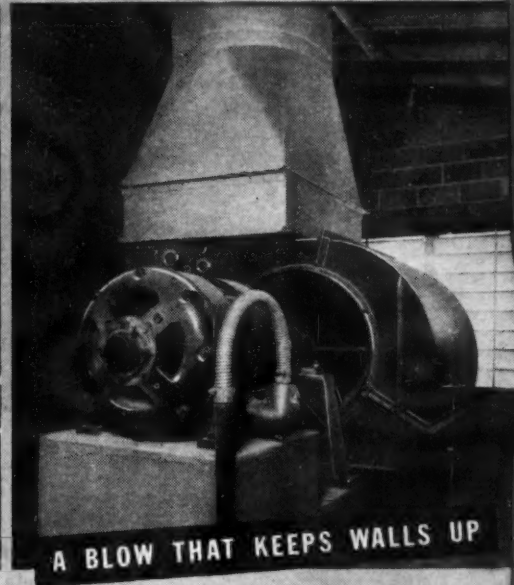
"SMALL POX" IN THE SPRAY ROOM

Dust-laden air was leaking into the paint spray room—leaving "pox" marks on freshly lacquered and japanned parts—costing hundreds of dollars in rejects. *Now* a Sturtevant Ventilating Unit brings in filtered air, builds up a pressure so air leakage is *outward*. Savings in rejects paid for the unit in 8 months.



THE ROOM WITH WEEPING WALLS

Formerly, moisture condensed on walls and ceiling of a bottle-washing and pasteurizing room—threatened to rot the beams. In went a Sturtevant Vapor Absorption System to blanket steam with a blast of dry air, suck moisture out. Result—a dry room and ceiling —more sanitary working conditions.



A BLOW THAT KEEPS WALLS UP

Under the intense cross flames that raise inside temperatures to 2700°F., the life expectancy of glass melting furnaces used to be only a matter of months. Now, Sturtevant Engineered Air covers furnace walls with a blowing "blanket" of cool air and more than doubles their useful life.

AIR CONDITIONING

DRYING

HEATING

MECHANICAL DRAFT

VENTILATION

DUST AND FUME CONTROL

Ventilating a room sounds simple enough — but *properly engineered* it can mean improved plant conditions, better worker efficiency, even increased production rates. All that means real money saving.

But, whether for men, machines or processes—ventilation is not just a matter of slapping in a fan somewhere. Getting rid of stale air, heat,—or whatever interferes with *best efficiency*, results only from careful study of all these factors:—Separate fan units or a central system? Supply of replacement air? What type of fans? What design of duct work? Sturtevant "Engineered Air" gives you all these answers — answers that will pay-off in dollars and cents. Remember, Sturtevant makes *all* types of air handling equipment. No call for us to favor one type or method over another. And it means a completely integrated job under one responsibility.

B. F. STURTEVANT COMPANY
Hyde Park Boston 36, Mass.

Sturtevant
REG. U. S. PAT. OFF.
Puts Air to Work

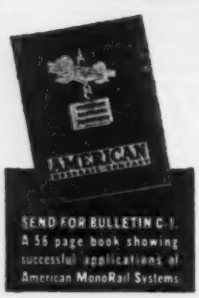
MOTORIZED HANDLING

Assures Low-Cost Assembly!

When all handling is done mechanically, as with American MonoTractor drives for cranes and hoists, unskilled help can spot heavy or cumbersome loads accurately and safely. In aircraft plants this kind of handling enabled inexperienced labor to complete highly technical assemblies.

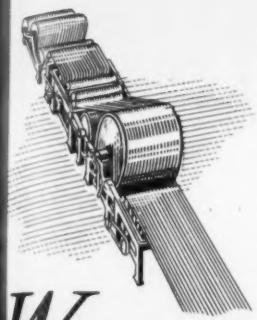
Motorized equipment can be easily and inexpensively adapted to a wide variety of handling problems. Quite a number of automatic systems have operated successfully for the past five years by remote control between departments or from building to building.

An American MonoRail Engineer will gladly show how such systems have eliminated handling costs in assembly operations. Write today —no obligation.



THE AMERICAN MONORAIL CO.

13108 ATHENS AVENUE, CLEVELAND 7, OHIO



Weavers of Spain...

● The Moors brought with them to Spain the spinning and weaving methods they had learned from the Egyptians. Centuries before the Egyptians practiced the starching of their warp yarns, with a paste made from grain, for greater strength and weavability.

Today—Staley Starches are under rigid scientific control, to meet all requirements of weavability, from the buying of the native corn to the finished product. This scientific control guarantees uniform quality and performance from each and every shipment. This control permits your sizing formulas to remain constant. Staley's complete line of thick and thin boiling starches meets the most exacting requirements for every textile use. Staley's consistent, high-quality production—under complete laboratory control—has won enthusiastic approval of textile men everywhere. Use Staley Starches for year after year satisfaction.

In the Ninth and Tenth Centuries, the Moors—after their conquest of Spain—cultivated cotton extensively and, along with plainer fabrics, wove the first dimities and fustians.

Number Three in a series published as a Tribute to the Development of Weaving through the centuries.

Staley's CORN AND SOY BEAN PRODUCTS

STALEY STARCHES

A. E. STALEY MANUFACTURING COMPANY

DECATUR, ILLINOIS

ATLANTA · SPARTANBURG · PHILADELPHIA · SAN FRANCISCO · DALLAS · CHICAGO · NEW YORK · BOSTON

© 1945 A. E. Staley Mfg. Co., Decatur, Ill.

Confidence —

Manufacturers may face the post-war adjustment period with greater confidence, if supported by the financial and credit services of a strong factoring organization.

Factoring enables a manufacturer to retain his own capital funds in his own business, instead of providing capital for the customers who buy his products; — at the same time factoring provides for such customers the usual credit terms on their purchases.

The factor assumes all risks of credit losses, and makes available immediately in cash, the net value of shipments as made.

Wider distribution and greater sales volume can be attained through factoring, without risk of credit losses, and on less invested capital.

INQUIRIES INVITED

John P. Maguire & Company

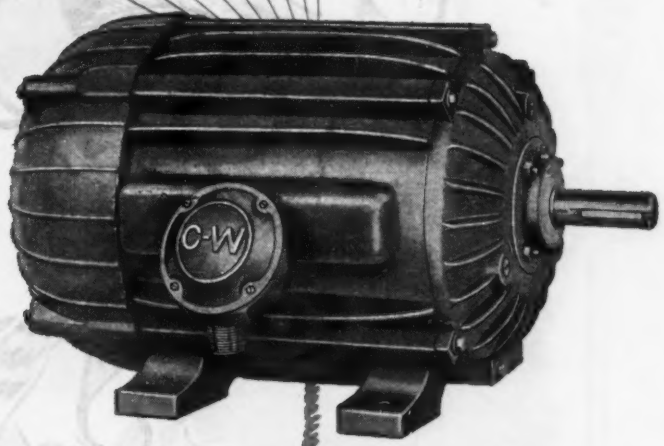
INCORPORATED

Factors

ASbland 4-4141

370 FOURTH AVENUE, NEW YORK, 10, N.Y.

THIS MIGHT BE CALLED THE Money-Saver MOTOR



Actually it is known as the **SEALEDPOWER** motor — but it is a "money saver" none the less.

SEALEDPOWER *saves maintenance expense.* There are no ventilating passages in the frame to be cleaned of lint periodically. Bearings call for regreasing only once a year or even less frequently.

SEALEDPOWER *saves repair bills.* The totally enclosed corrosion-resistant frame seals out lint and moisture, preventing premature breakdown of windings. Practically indestructible dynamically balanced *Alucast*, rotor construction does away with rotor trouble. Vacuum impregnation of stator windings reduces hot-spot temperature, lengthens insulation life and prevents destructive vibration of wires.

SEALEDPOWER *saves "down time" costs.* Because there is little need for maintenance, and no repairs or replacements should be required for many years to come, costly unproductive machine time is reduced to a minimum.

SEALEDPOWER motors (an exclusive Crocker-Wheeler design) are ideally suited to many applications in the textile industry, from fiber to finished fabric —wherever conventional totally enclosed or fan-cooled types have been used in the past. They provide added protection without increase in price.

Phone, write or wire nearest Crocker-Wheeler office for complete details.

CROCKER-WHEELER

A DIVISION OF JOSHUA HENDY IRON WORKS, AMPERE, NEW JERSEY

Branch Offices: BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DETROIT • LOS ANGELES • NEW YORK • PHILADELPHIA • PITTSBURGH • SAN FRANCISCO • WASHINGTON

SQUIRREL CAGE MOTORS WOUND ROTOR MOTORS DIRECT CURRENT MOTORS GENERATORS FLEXIBLE COUPLINGS

... that's *Tufferized* Card Clothing

Yes, a bulldog *is* tough—and a friendly, willowy cat *is* flexible—but Tufferized Card Clothing, made from the finest steel wire, is especially tempered for *both toughness and flexibility!*

And because it is so evenly and so accurately placed in the famous Tuffer foundation, it is easier to strip . . . stays on the job with fewer grindings! It all adds up to greater production and lower carding costs!

TUFFER CARD CLOTHING

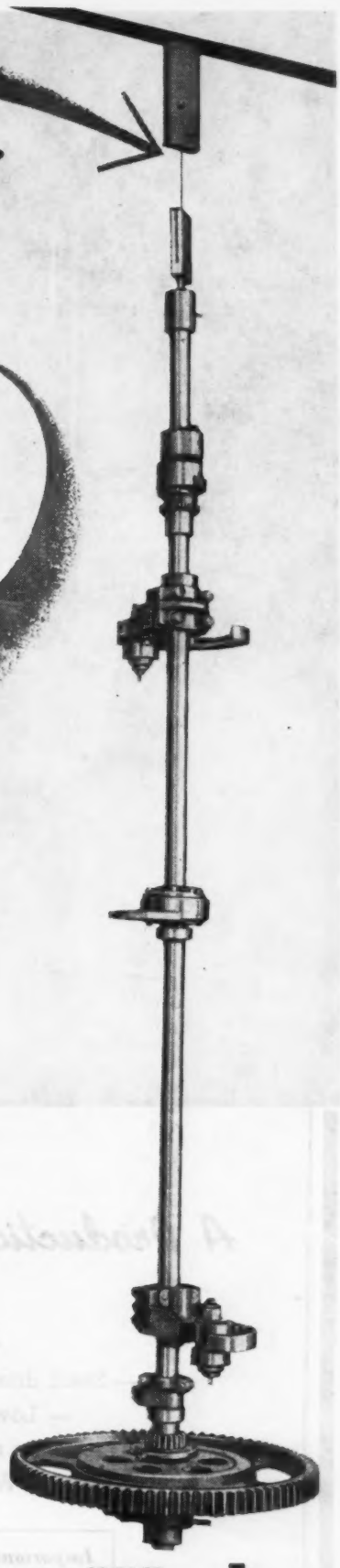
Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.

HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga. Gastonia, N. C. **Branch Offices:** Philadelphia, Austin **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

How C&K Engineers "TUNE" a Piano Wire



. . . to reveal the real rhythm of Loom-Shaft Operation

No useful tool is overlooked in C&K's ceaseless quest for loom improvements. Even a plain piano wire is employed as part of a precision set-up for measuring the "flywheel-effect" of rotating loom parts.

This wire, clamped rigidly overhead at one end, and to a bottom shaft at the other end (as shown), twists as the shaft is rotated a certain number of degrees in one direction by the application of a measured force. When released, the period of oscillation of the shaft is timed as it turns slowly, first in one direction, then in the other. From all these measurements, the "flywheel-effect" of the rotating mass is determined.

These findings are studied carefully for possible ways to engineer better load-carrying characteristics into loom motors (and loom motors are like no other motors, you know). And these findings are also studied for ways to enable the loom, as a whole, to better absorb the kinetic energy of rotating parts when the loom is stopped suddenly. This particular study is aimed toward two end-results: Increasing the continuity of loom-operation, and decreasing cost of maintenance. And many such studies are in progress constantly at C&K . . . each one working slowly and surely toward higher weave-room efficiency for *you*.

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

between Today's War Weapons . . . and their New Uses in Tomorrow's Looms

A Recent Installation of Four SARGENT STOCK DRYERS
in a Progressive New England Worsted Mill

A Production Problem Solved -

• • • THIS IS THE IMPORTANT FACT!

Advantages of this modern installation

— Stock dried at lower temperatures — The use of low pressure steam
— Lower power consumption — Less floor space required
— Costly repairs and breakdowns eliminated — A better product

Why not let SARGENT solve your Drying troubles?

Important Defense Items by SARGENT	Machines for Smokeless Powder Plants • Machines for Synthetic Rubber Plants • Textile Machinery for the manufacture of uniforms • Machined parts for large caliber guns

C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U.S.A.

GIANT SHEETS highly polished!

. . . another EASTERN STAINLESS feature!

Eastern Stainless craftsmen are all specialists in Stainless who take particular pride in their ability to furnish very large sheets finished precisely to your specifications.

If your requirements demand a brilliantly polished, mirror-like surface — one or both sides — you'll want the Eastern Stainless No. 7 Finish, one huge sheet of which is illustrated here. Or perhaps you require a somewhat less reflective sheet possessing a "satin" appearance. If so, you'll choose the Eastern Stainless No. 4 Finish. Then again, the job at hand may call for another of the seven popular sheet mill finishes Eastern Stainless offers to meet every need.

Come to Eastern for the answer whenever Stainless is the question. Eastern Stainless furnishes twelve standard and several special grades, all of highest quality, in a wide range of sizes and finishes. Consult the Eastern Stainless Technical Staff . . . you'll receive prompt, helpful service.

FREE . . . NEW 96 PAGE CATALOG!

Just what you want . . . an office-handy encyclopedia giving authentic information on modern applications of Stainless Steels in many great industries including your own. Contains much technical data compiled by Eastern Stainless specialists. Today—write for your *free* copy of the 1945 Eastern Stainless catalog—it'll be a valuable assistant in your daily work.

To meet your requirements, Eastern Stainless offers a wide range of sizes and finishes

JMLco B-E1

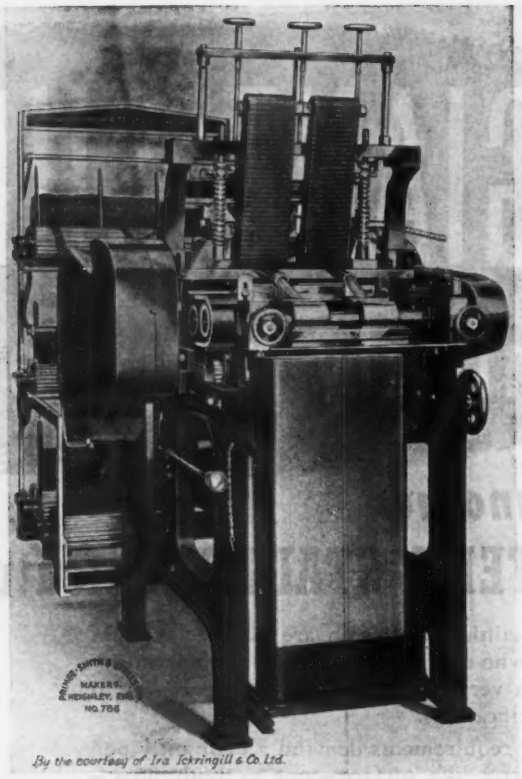
EASTERN STAINLESS STEEL CORPORATION

BALTIMORE 3, MARYLAND

Distributors' stock available in most areas

CHICAGO • CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • PHILADELPHIA

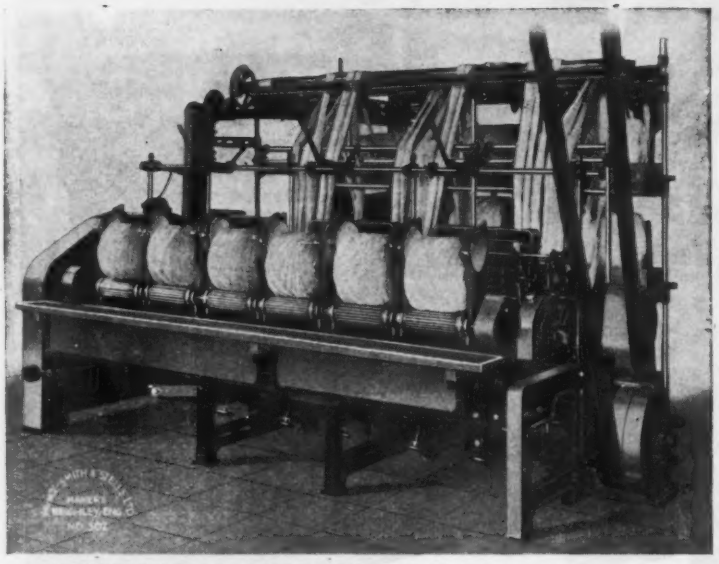
WE ARE MAKERS OF
THE CONTINENTAL
AND ENGLISH—
SYSTEMS OF COMBING,
DRAWING, SPINNING
AND TWISTING.



By the courtesy of Ira Ickringill & Co. Ltd.

DOUBLE HEAD CAN INTERSECTING GILL BOX

WORSTED



CONTINENTAL TYPE INTERSECTING GILL BOX

THIS UNIQUE POSITION
MEANS WE CAN OFFER
YOU OUR SERVICES
NO MATTER WHICH
SYSTEM YOU ARE
INTERESTED IN.

PRINCE-SMITH & STELLS LTD.

WORSTED MACHINERY MANUFACTURERS

KEIGHLEY (Yorkshire) **ENGLAND**

Agents: Atkinson, Haserick & Co., 211 Congress Street, Boston, Mass.

AMERICAN MAGNESIUM CLOTH ROLLS

light, strong, true and ***splinter-proof***

• This extruded hollow section is one of the several magnesium shapes developed by American Magnesium for cloth rolls. Although extremely light in weight, these rolls are strong and stiff, so they can stand up under heavy loadings. Caps on both ends protect the edges.

There's no distortion to cause them to go out-of-round; no cracking or splintering to shorten their life. Service reports indicate that with proper care, they will last indefinitely.

This is one of the many items of textile equipment developed by American Magnesium to reduce operating costs and improve product quality. Write for details on magnesium cloth rolls, warp beams, jack spools, loom beams, bobbins, and any machinery part in which you want to eliminate dead weight.

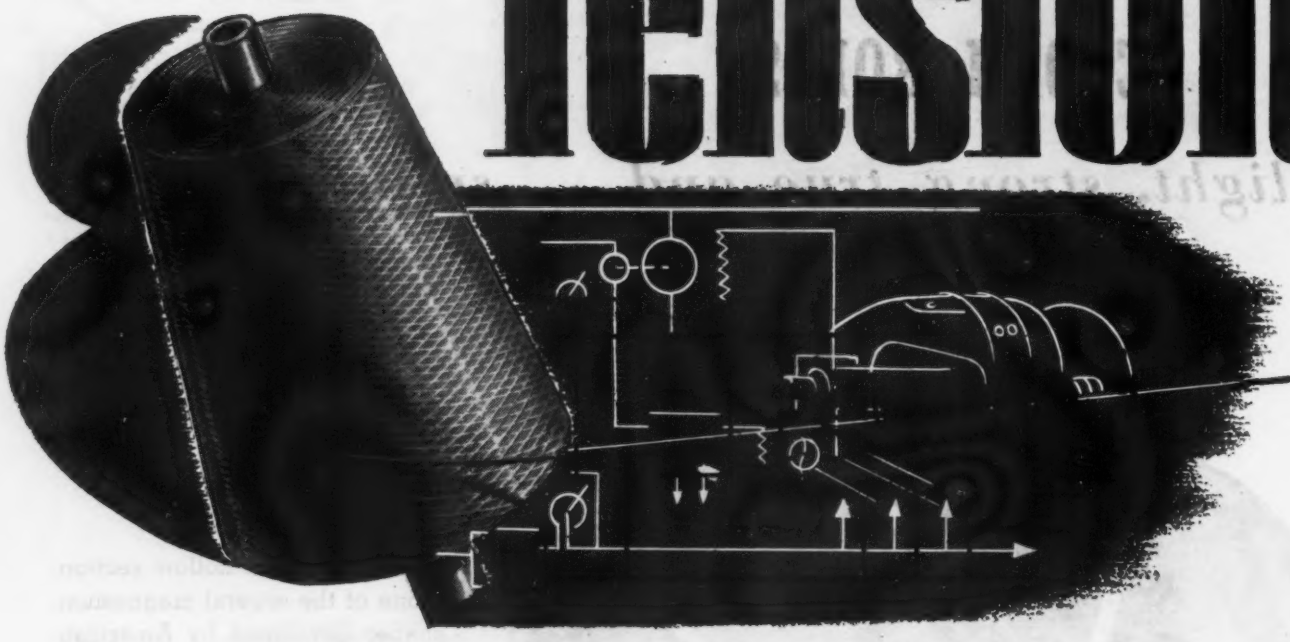
Aluminum Company of America, Sales Agent for American Magnesium Products, 1705 Gulf Building, Pittsburgh 19, Pennsylvania.

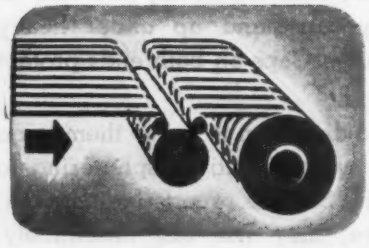
MAGNESIUM MAZLO PRODUCTS

AMERICAN MAGNESIUM CORPORATION

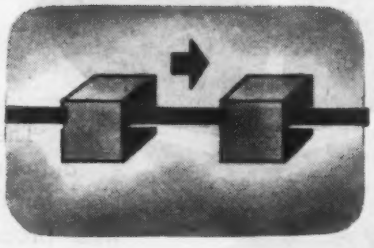
SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

Tension

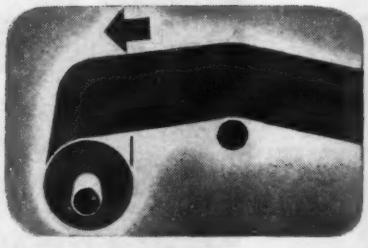




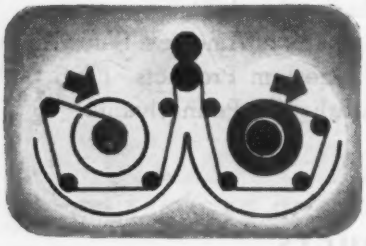
Slasher drives, which automatically maintain yarn tension within extremely close limits, are now offered by G.E. Key to the success of the drive is an electronic control which continuously compensates for the changing diameter of the roll.



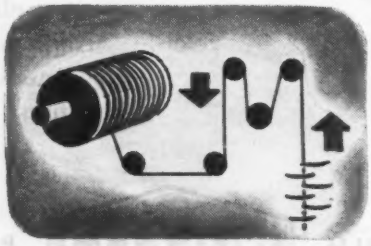
Range drives incorporating the advantages of automatic tension control are available from G.E. in a variety of types. They can be furnished to maintain any prescribed tension from zero up, or to provide a definite stretch.



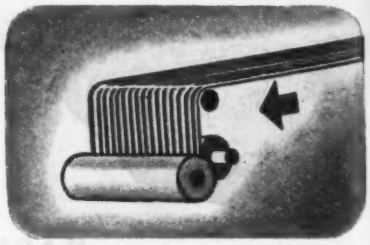
Batcher drives built by G.E. have, over a period of years, proved their ability to provide the uniform pull that prevents crushing of inner layers of the roll, distortion of weave, wrinkles, and hard spots. Drives can be so built that tension will taper off at the end of the run.



Duo-dye-jig drives are now available to keep the cloth under uniform tension, thus assuring uniform porosity and uniform dyeing. The G-E gear-motors on the two rolls are duplicate wound-rotor motors designed to apply torque proportional to the roll diameter while winding, and to give uniform braking tension during unwinding.



Yarn winder drives that can hold as little as 5 grams of tension with an accuracy of $\pm \frac{1}{2}$ gram are now in operation. Applied to the cone winding of rayon, these G-E drives hold up to 30 grams tension on yarn travelling at 3000 inches per minute. More uniform cones are obtained, and danger of abrasion is eliminated.



Warper drives that automatically keep yarn tension within very narrow limits are another new development by G.E. A Thymo-trol drive rotates the beam, continuously regulating its speed to maintain constant yarn speed. Yarn speeds are limited only by the characteristics of the yarn.

control GOES Automatic

The day may be a lot nearer than you suppose when you can eliminate, in a whole series of textile-mill processes, the need to depend on "feel" to measure and control tension

Already, G.E. has developed practical systems of automatic tension control for slashers, range drives, batchers, dye-jigs, and many other types of equipment. Several of these systems have been put into operation in textile mills. In every application they have proved their ready "workability" in regular, rough-and-tumble textile-mill service.

Electrical Measurement vs. Human Judgment

Electrical measurement of tension is far more precise and consistent than the most experienced human's sense of touch. Moreover, it can be translated automatically into a continuous, accurate control of motor speed, torque, or power, to maintain the exact tension desired. The tension selected as best for any given grade of yarn or cloth can be set by simply turning a dial, and can always be duplicated accurately.

With the application of G-E automatic tension control, you will make subsequent operations easier and faster because you will be supplying a more uniform product. You will eliminate damage in preparatory processes, and in weaving or knitting and finishing. You will improve the quality of your end products.

Simpler Equipment—Less Maintenance

An important auxiliary benefit of automatic electrical tension control is the elimination of friction devices, gearing, and much other mechanical equipment. The electric devices employed require little attention and little specialized "maintenance know-how."

On the opposite page, we present a few applications of G-E automatic tension control. Subsequent advertisements will tell in detail how these and other G-E systems work. Also, G-E application engineers are at your service to show how these systems can be adapted to your specific equipment, or to work out new systems to solve your particular problems. *General Electric Company, Schenectady 5, N. Y.*

Buy all the BONDS you can—*and keep all you buy*

GENERAL ELECTRIC

661-21-8623

"The case of the kier-stained cotton"

The bleacher was boiling mad. "That dyeman says it's *my* fault he can't do a better job on his cottons!"

"I keep telling him," said the dyeman "that something's wrong with his kier boil. I don't know how his department works, but I do know the cottons aren't clean!"

After carefully examining the offending cloth, the Armour Soap Sleuth turned to the bleacher. *"You've got kier stains in your cottons,"* he said. "They're caused by a faulty boil and mean resist spots and cloudiness in the dyeing."

"To get a thorough and uniform boil you need a high-titer soap like Armour's Flint Chips. Its titer is guaranteed from 41°-42°C. Flint penetrates quickly, rinses fast...gives you a *better, cleaner* boil because it stays active under steam! Use high quality Flint in your kier charges and you'll never have any trouble with the dyehouse."

One of a Series of Adventures of the Armour Soap Sleuth

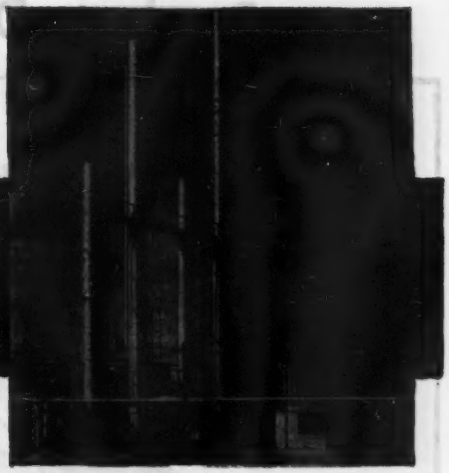
INDUSTRIAL SOAP DIVISION

Armour and Company

1355 W. 31st Street, Chicago 9, Illinois

ALOYCO STAINLESS STEEL VALVES

SOLVE DIFFICULT CORROSION PROBLEM AT COASTWISE PETROLEUM COMPANY



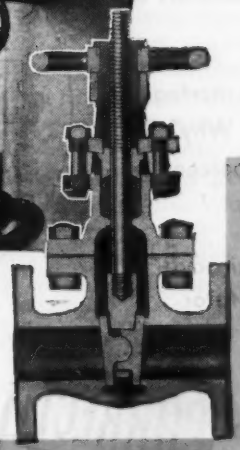
ALOYCO VALVES PREVENT STILL SHUTDOWN

To prevent shutdown of the distillation operation and avoid servicing in an inaccessible location, Aloyco Valves are installed in heat exchanger manifold since they are practically immune to acids encountered.

If you handle corrosive fluids, you can benefit from the experience of Coastwise Petroleum Company's Goodhope, Louisiana Plant. Before they began to use Aloyco Stainless Steel Valves, valve life on their Benzol Treaters was only a few months with acid, less with alkali—making repair charges high, causing frequent service interruptions. Finally, to withstand the effluent which varies from sodium sulphate, benzene sulphonic acid, sulphuric esters, etc. to soda and acids, they chose Aloyco Valves fabricated of Aloyco 20.

After one year of continuous service, these Aloyco Valves are still on the line and give promise of remaining there indefinitely. This is but one of the many good records Aloyco Valves have made in resisting corrosion. Investigate what they can do in your plant. Write us today.

Other alloys available: 18-8S, 18-8SMo, the higher Chrome-Nickel series, Worthite, Hastelloy, Monel, Pure Nickel and others.



Note non-fouling double-disc wedge. Free to rotate, it provides drop tight closure. Valve fabricated of stainless steel, even to bonnet bolting.

ALOYCO

Stainless Steel

VALVES and FITTINGS

GATE VALVES • GLOBE VALVES
Y VALVES • CHECK VALVES
LEVER THROTTLE GATE VALVES
TANK VALVES • SCREWED FITTINGS
FLANGED FITTINGS
GAUGE GLASS FITTINGS

ALLOY STEEL PRODUCTS COMPANY, INC. 1304 West Elizabeth Avenue, Linden, N. J.

Products Don't Breathe — Producers Do

1 Carder's mill has moistened air
(Keeps the product in condition.)
But the folks who labor there
Find the heat retards ambition.

2 Things are different at Weaver's:
Temperature is *also* right.
Workers all perform like beavers —
Output's higher than a kite.

3 *Product* may be treated well
While *producers* are neglected
Air that's bad for personnel
Should be thoroughly corrected.

Correct Air Conditioning takes into account every atmospheric requirement for peak production, including the all important human factor. It is the result of the scientifically engineered blending of correct temperature, humidity, circulation, ventilation and air cleanliness. It pays — because it contributes materially to higher working efficiency and improves the quality of many products.

Depend upon Westinghouse engineering experience, research and equipment for correct air conditioning for *your* establishment.

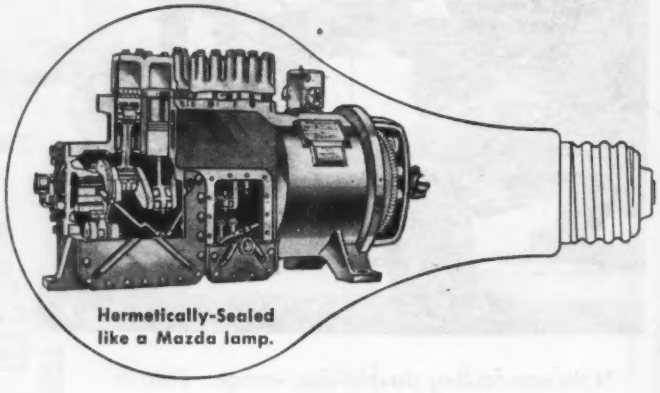
Consult Westinghouse early in the planning of your new or modernized buildings. Phone your nearest Westinghouse office, or write Westinghouse, 150 Pacific Avenue, Jersey City 4, N. J.

THE SERVICE-PROVED HERMETICALLY-SEALED COMPRESSOR

These Westinghouse economy-satisfaction advantages have been proved by years of service in thousands of installations:—

No Shaft Seals. During wartime refrigerant shortages, few Westinghouse systems were ever "down." Why? Because seal leaks are the cause of a large percentage of all system failures.

Few Parts to Wear . . . Direct-Drive Efficiency . . . Space-Saving Refrigerant-Cooled Motor

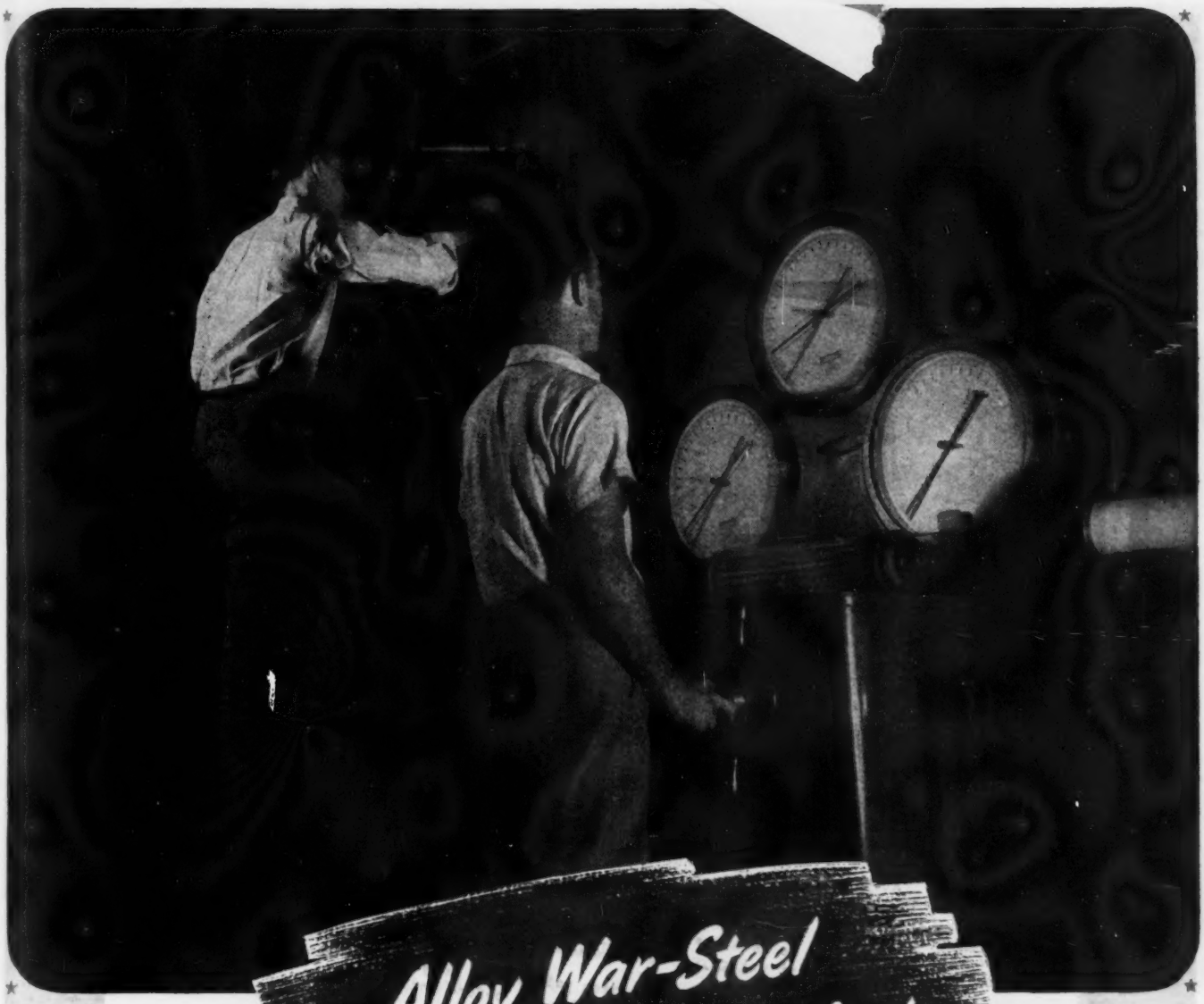


Hermetically-Sealed like a Mazda lamp.

Westinghouse CORRECT Air Conditioning

PLANTS IN 25 CITIES . . OFFICES EVERYWHERE

Westinghouse Presents *John Charles Thomas* • Sunday, 2:30 E.W.T., N.B.C.



Alloy War-Steel reports for its physical

OWI Photo by Palmer, in an Allegheny Ludlum Plant

TESTING is an integral part of production at Allegheny Ludlum mills. Thousands of dollars worth of amazingly accurate machinery are on the job in each mill, testing tensile strength, elastic limit, elongation and reduction of area—all the essential properties of each stainless grade—before it is shipped out for war production.

But after shipping, what? This Allegheny Stainless, made and tested to such rigid exactness, is a war material of the most vital sort. Every alloy in it stands high on the critical list. Is it being used as carefully as it was made? Are fabricators getting the maximum number of products and parts from every ton, with the least possible loss in rejects, spoilage and other forms of waste? Have you looked into the possibilities of easy-machining grades, standard finishes, or lower alloy content?

We urge you to check or re-check these questions against your own use of Allegheny Stainless, as a matter of vital concern in getting the utmost from the nation's supply of metals and alloys.

● We'll help you in any way possible—both to make better use of Allegheny Stainless, Tool or Electrical Alloys, or in planning your postwar production. Technical information, fabricating data, or the assistance of our Technical Staff, are yours on request.

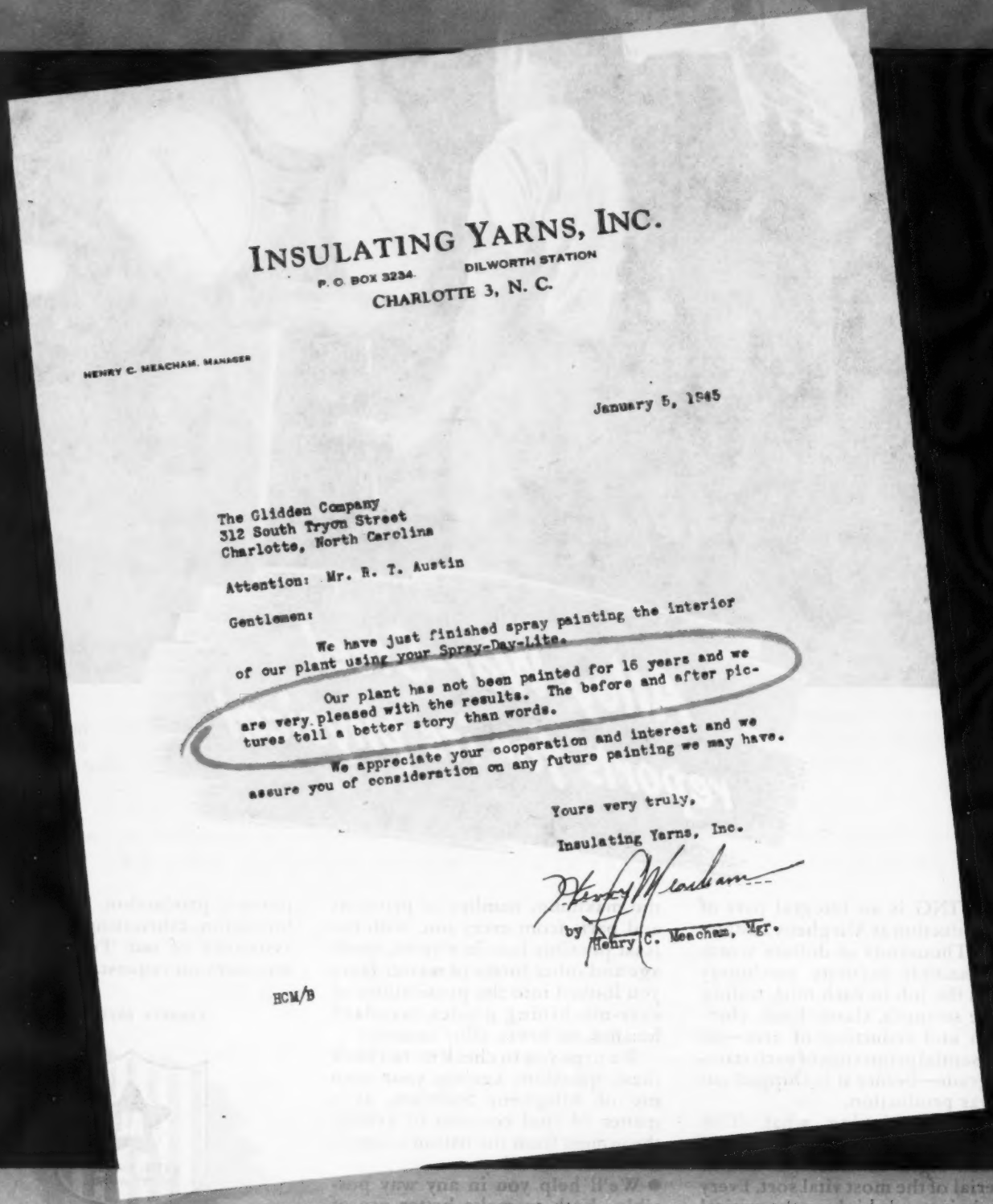
ADDRESS DEPT. TW-33

Branch Offices in Principal Cities . . . Allegheny Stainless also handled by all Joseph T. Ryerson & Son, Inc. Warehouses

Allegheny Ludlum
STEEL CORPORATION
BRACKENRIDGE, PENNSYLVANIA

A-9769 . . . W & D

Plant not painted for 16 years
...a real test for...



INSULATING YARNS, INC.
P. O. BOX 3234 DILWORTH STATION
CHARLOTTE 3, N. C.

HENRY C. MEACHAM, MANAGER

January 5, 1945

The Glidden Company
312 South Tryon Street
Charlotte, North Carolina

Attention: Mr. R. T. Austin

Gentlemen:

We have just finished spray painting the interior of our plant using your Spray-Day-Lite.

Our plant has not been painted for 16 years and we are very pleased with the results. The before and after pictures tell a better story than words.

We appreciate your cooperation and interest and we assure you of consideration on any future painting we may have.

Yours very truly,

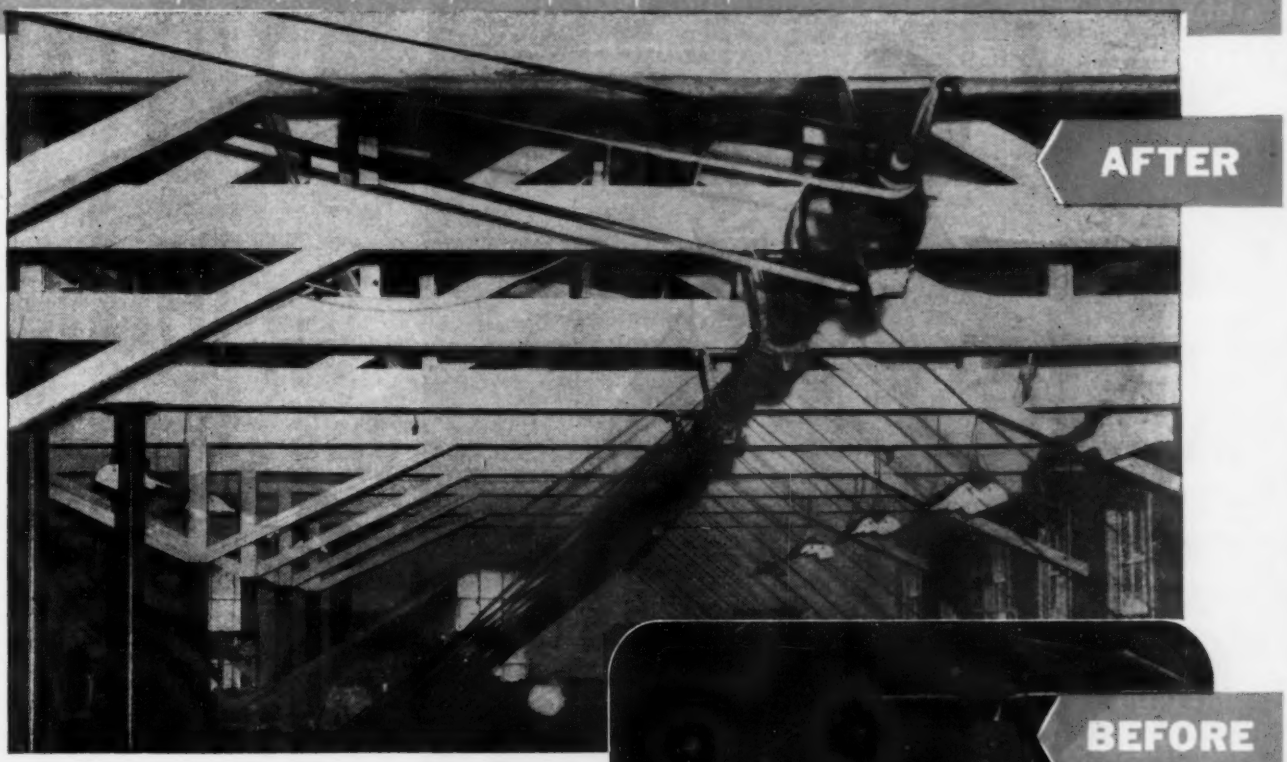
Insulating Yarns, Inc.

by Henry C. Meacham, Mgr.

HCM/B

GLIDDEN

SPRAY-DAY-LITE



Sensational record of superb maintenance paint based on PERFORMANCE

In painting a plant whose interior had not been painted in *16* years, Insulating Yarns, Inc., saw proof of the statement that Glidden SPRAY-DAY-LITE gives smooth, solid covering over even the dirtiest of surfaces. And the "before and after" pictures of Insulating Yarns' plant reproduced above furnish convincing evidence of the *improved lighting* that results when SPRAY-DAY-LITE is used.

Sprayed or brushed, just one coat of SPRAY-DAY-LITE gives conventional two-coat results. Its durable, egg-shell finish eliminates glare—washes like tile. Its intense white *stays* white!

Send for new Color Chart visualizing the wide range of pleasing combinations possible with the 10 beautiful SPRAY-DAY-LITE colors—or see a demonstration of SPRAY-DAY-LITE in your own plant by a Glidden engineer. For one or both, just write

THE GLIDDEN COMPANY • Cleveland 2, Ohio

TIME-TESTED

Pacemaker in Paints

May we interrupt..?

We can assist you with your post-war plans

IF you are thinking of the multi-story building you will build when the war is over — or

If you are among the thousands of progressive property owners and building managers who are thinking of modernizing their vertical transportation system when labor and materials are available —

We suggest that you get the planning behind you now as we have learned by experience that the preliminary plans for an elevator or escalator installation often take more time than is required for the manufacture and installation.

Your Otis representative is ready now to help you develop your elevator plans . . . to make preliminary studies and recommendations. Call him today and be assured of the last word in vertical transportation tomorrow.

Otis ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

ALATINES

or wool

PALATINE FAST DYESTUFFS

...offer the lowest coloring costs for quality results.

...have chrome color fastness (without the addition of chrome) by simple acid dyeing process.

...are fast to light, washing, perspiration, crocking, sea water and wear.

...are level dyeing on mixed wool and carbonized goods without neutralization — with excellent penetration. Most types are dischargeable with Rongalite.

...are particularly suitable for piece dyed Army fabrics, men's wear, dress goods, gabardines, tropical worsteds, cloakings, bathing suits, knitting yarns, carpet yarns and tops.

...on Nylon give maximum fastness to light and washing. The method of application is simple and the results are excellent.

GDC

more production
with less manpower

GENERAL DYESTUFF CORPORATION

FOUR THIRTY-FIVE HUDSON STREET • NEW YORK 14, N.Y.

BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • CHARLOTTE • SAN FRANCISCO

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

ONE WAY TO FREE A PHONE FOR A FIGHTER . . .

When you need STAINLESS STEELS

CALL Industrial and the probability is your complete order for stainless steels will be handled promptly. You'll not be faced with the necessity of making a half-dozen long distance calls to various Stainless suppliers.

Industrial's inventory—everything in stainless steels, from sheets and bars through tubing and wire, to valves, fittings and even bolts and nuts—is the largest, most diversified warehouse stock of Stainless in America!

Whatever your specification or fabrication problem, Industrial's highly trained metallurgists will assist you. *Even today, Industrial works fast, with same-day attention to orders.*

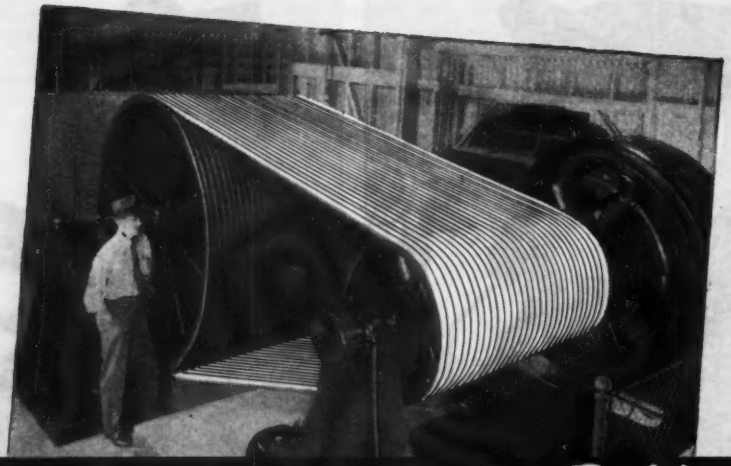
So, in buying stainless steels, save your time and money . . . and free the circuits for servicemen.

Place the entire order with Industrial. If it's Stainless, we have it. Industrial Steels, Inc., 250 Bent Street, Cambridge 41, Mass.

TROwbridge 7000

EVERYTHING IN STAINLESS

INDUSTRIAL STEELS, INC.



Here is a noteworthy fact

GATES *Synthetic Rubber* V-Belts

—are *TODAY* delivering *BETTER SERVICE* than *Pre-War* Belts of *NATURAL RUBBER!*

—and here's the reason behind it

Every day, on battlefields all over the world, U. S. Army tanks, tractors and self-propelled big guns are giving Gates V-belts a severity of service that no belts built before the war could possibly stand. Gates developed these combat-unit V-belts through specialized research and is building them entirely of synthetic rubber!

The importance of this fact to industrial V-belt users is this—

● Every improvement developed by Gates for these Army V-belts has also been added, day by day, to the quality of the standard Gates Vulco Ropes which have been delivered to you.

In many other products, as you know, war-time improvements must be withheld from general use until after the war is won. Gates V-belts are a notable exception to this rule for the simple reason that Victory depends upon production and production depends upon V-belts to drive the producing machines. That is why Gates has been able to give you immediately in your standard Gates Vulco Ropes, every V-belt improvement which Gates specialized research has developed for used on the Army's motorized equipment.

It is because of these facts that the Standard Gates Vulco Ropes you are now getting are giving you better service than any V-belts that were ever built before the war.

THE GATES RUBBER COMPANY

Engineering Offices and Jobber Stocks in All Large Industrial Centers

THE MARK OF Gates SPECIALIZED RESEARCH

455

GATES VULCO ROPE DRIVES

CHICAGO 6, ILL., 549 West Washington DALLAS 2, TEXAS, 1710 N. Market Street ATLANTA 3, GA., 738 C & S National Bank Building
CHARLOTTE 2, N. CAROLINA, 605 West Fifth St. NEW YORK CITY 3, 215-219 Fourth Ave. DENVER 17, COLO., 999 South Broadway
GREENVILLE, S. CAROLINA, 108 W. Washington Street BIRMINGHAM 3, ALA., 801-2 Liberty National Life Bldg.

THE FROZEN BEARINGS THAT "*Burned Up*" THE BOSS

▶ THE SCENE: The busy mill of Barbour Welting Company, Brockton, Mass., leading manufacturer of leather welting and textiles.

▶ THE PLOT: The machines are clicking off thousands of yards of welting and woolen materials per day. Suddenly, a machine comes to a clattering, smoking stop. A bearing has "frozen" stiff, and will the Boss be "burned up!"

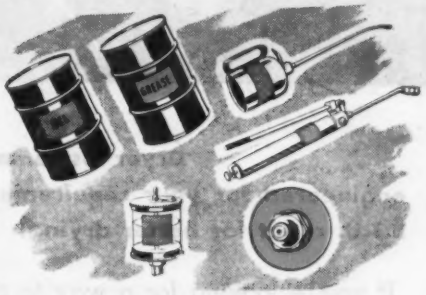
And why not? Scarcely a week went by without a breakdown of some piece of machinery due to bearing failure. And there are hundreds of machines literally covered with bearings that *demand positive lubrication.* Many of these points were being neglected—overlooked by inexperienced help who did not know where to find them. Some bearings were getting the wrong lubricant. Others were getting too much.

Oil and grease from overlubrication was ruining material in process of manufacture and cutting down volume. Production schedules were dislocated due to machine "down-time" while bearings were being replaced.

▶ THE HAPPY ENDING: Alemite Lubrication Specialists analyzed the Barbour Mills and recommended the Alemite Coloroute Plan of Lubrication. Now every point—every lubrication fitting, gear and oil hole is identified by color symbols that fairly shout at the oiler, "Hey! Don't forget me." Since the installation of Coloroute a year ago, there has not been one bearing failure—*not one machine out of production*—due to the failure of a lubricated part. Lubricating time has been cut over 50%.

* * *

There's no guesswork with Coloroute. First, the Alemite Lubrication Specialist analyzes your machines, lubricant requirements and lubricating equipment. Out of this complete analysis comes his recommendations for the minimum number of lubricants necessary to do an efficient job. (This often results in reductions of 30% to 75% in the number of lubricants required.) Then, each container and gun is "color-identified" to correspond to the color symbols on the machines. The color of the symbol tells which "grease or oil"—the shape of the symbol tells "how often." The complete plan is "super-safe" and can be quickly taught to inexperienced help.



To Executives: Have an Alemite Lubrication Specialist Explain the "Coloroute Plan of Lubrication."

No plant is too large or too small to enjoy the economies and benefits of Coloroute. Talk it over with an Alemite Lubrication Specialist. He will give you complete details on Coloroute, without the slightest obligation. Drop us a line—Alemite, 1888 Diversey Parkway, Chicago 14, Ill. In Canada: Belleville, Ontario.

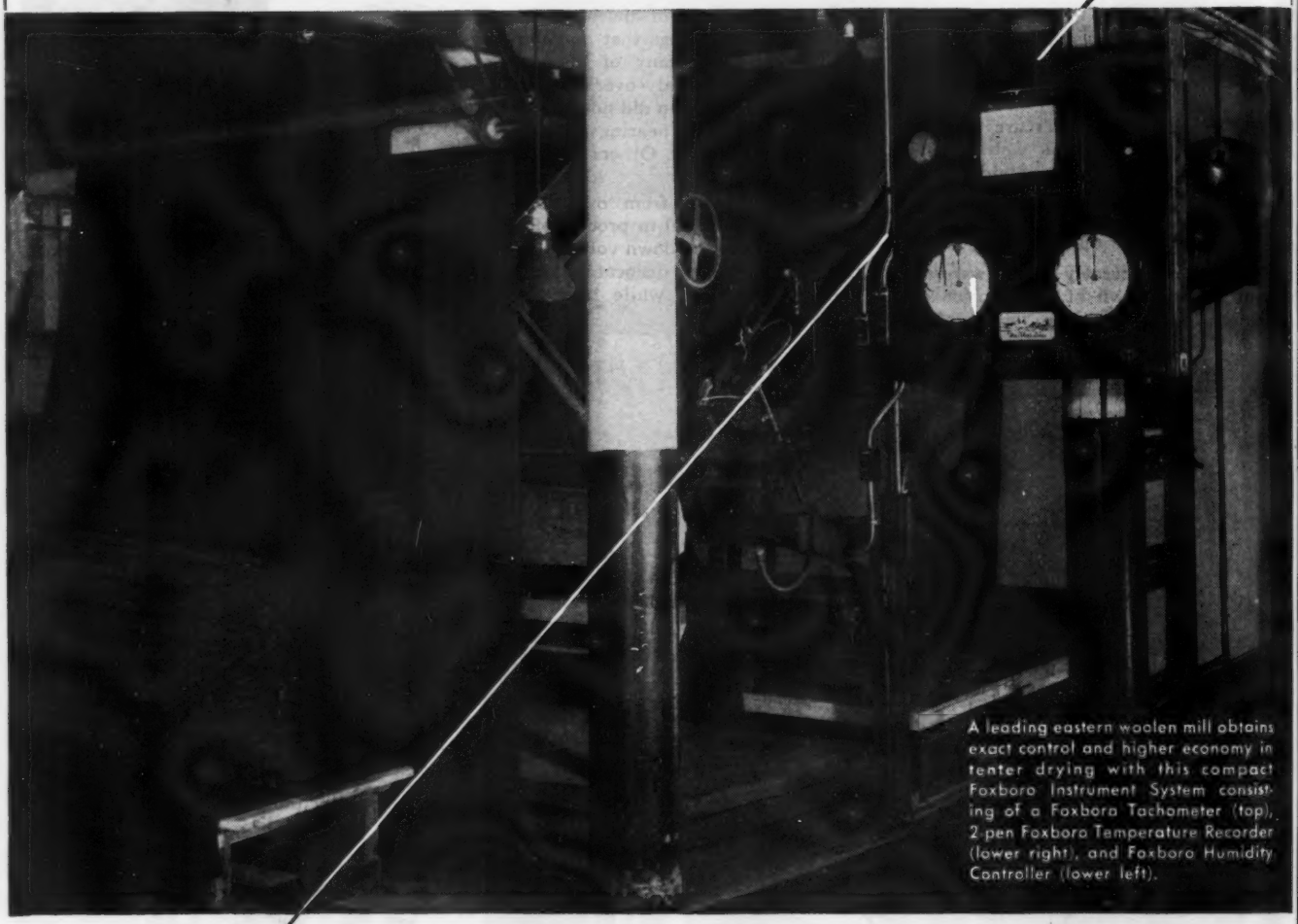
ALEMITE

First in Modern Lubrication

Another Product of STEWART WARNER

CONSULTATION • EQUIPMENT
LUBRICANTS • ENGINEERING
MAINTENANCE

TAKE A TIP ON FUEL SAVINGS FROM THIS WOOLEN MILL!



A leading eastern woolen mill obtains exact control and higher economy in tenter drying with this compact Foxboro Instrument System consisting of a Foxboro Tachometer (top), 2-pen Foxboro Temperature Recorder (lower right), and Foxboro Humidity Controller (lower left).

Dryer instrumentation, Foxboro-engineered for your requirements, makes every B.T.U. *count* for better drying!

If you're looking for a way to cut your coal bills, there is no better place to start than at your dryers. For, inexact control of drying operations can waste a lot of B.T.U.'s by permitting good, dry hot air to escape in the exhaust.

The surest way to get close, fuel-saving control on any textile dryer is through Foxboro Instrumentation specifically engineered to the job. That's why the majority of textile dryers now are Foxboro-instrumented.

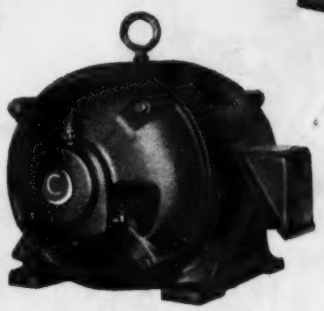
The illustration shows a typical example. This wool tenter dryer is equipped with instruments that permit accurate control of every phase of the operation. A Foxboro Humidity Controller automatically controls air from heaters exactly according to requirements. A two-pen Foxboro Thermometer records dryer zone temperatures. And a Foxboro Tachometer continuously records cloth-speed.

No matter what type textile dryer you employ, Foxboro engineers can help you lay out the most efficient, fuel-saving control system. Phone our nearby branch, or, write to **The Foxboro Company, 84 Neponset Avenue, Foxboro, Massachusetts, U. S. A.**

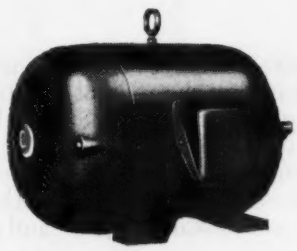
FOXBORO REG. U. S. PAT. OFF. **DRYER CONTROL**

Splash Proof Protection

3 OTHER TYPES OF PROTECTION



Form J — General Purpose Application



TEFC — Protects Against Destructive Dust, Grit, Powdered Materials

Century Explosion Proof Motor

Where There Are Splashing Liquids

Guard Against Production Losses With CENTURY SPLASH PROOF MOTORS

Whether yours as an installation is subjected to splashing liquids — or whether your electric motors must withstand plant washdowns — Century Splash Proof motors will give you protection.

Of course, any falling solids are also kept out of the operating parts of the motor by Century's proven splash proof construction.

Special insulation is available for higher concentrations of acids and alkalies.

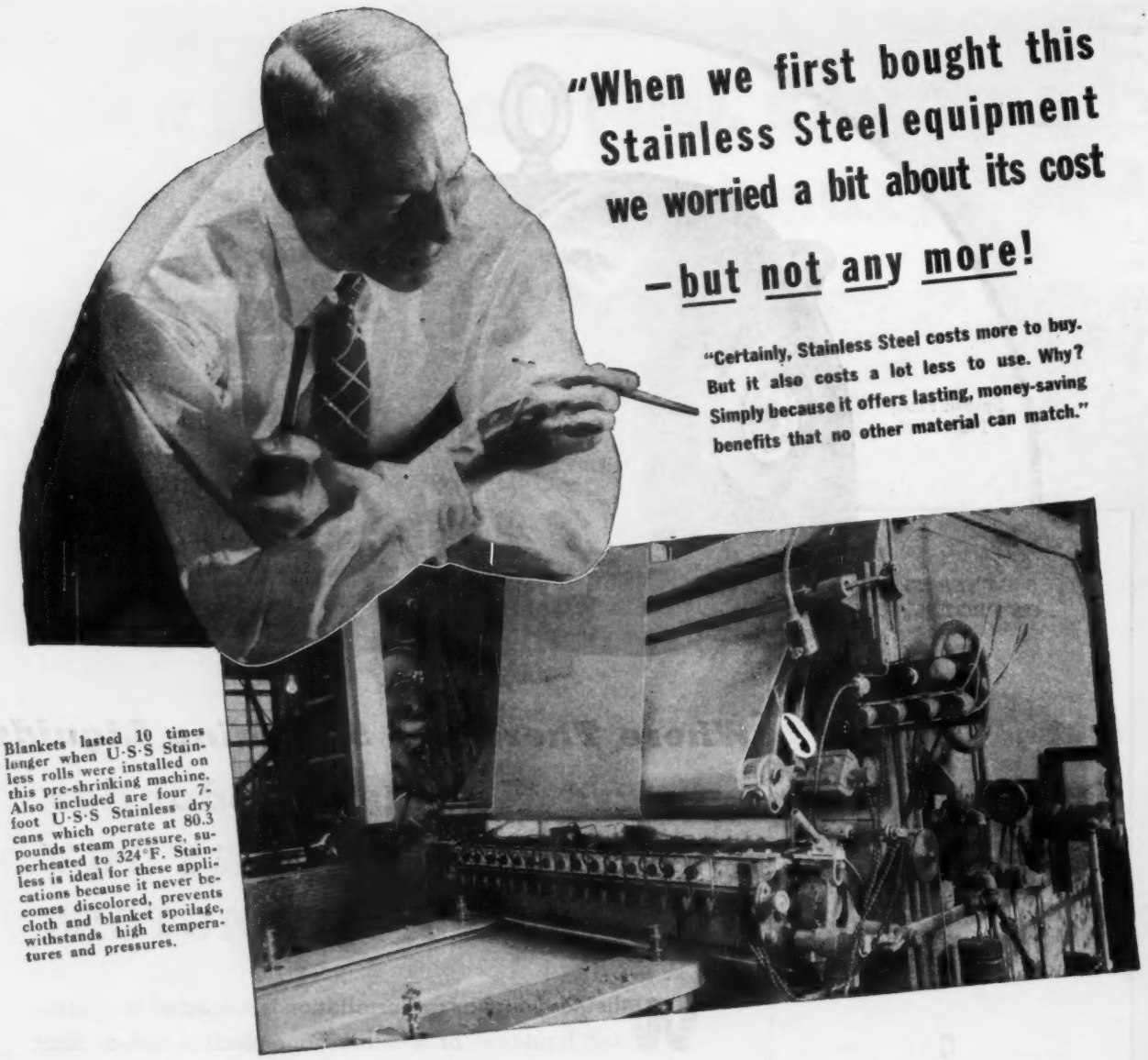
Wherever your electric motors must operate in conditions such as these, for safety's sake, specify Century Splash Proof. A Century engineer will be glad to give you complete details about the advantages of Century motors as they apply to your job.

Century C MOTORS

CENTURY ELECTRIC CO.
1806 Pine Street, St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

384



"When we first bought this Stainless Steel equipment we worried a bit about its cost

—but not any more!

"Certainly, Stainless Steel costs more to buy. But it also costs a lot less to use. Why? Simply because it offers lasting, money-saving benefits that no other material can match."

Blankets lasted 10 times longer when U·S·S Stainless rolls were installed on this pre-shrinking machine. Also included are four 7-foot U·S·S Stainless dry cans which operate at 80.3 pounds steam pressure, superheated to 324°F. Stainless is ideal for these applications because it never becomes discolored, prevents cloth and blanket spoilage, withstands high temperatures and pressures.

USERS of dyeing, bleaching and finishing equipment built of Stainless Steel will be the first to tell you that Stainless more than pays for itself.

U·S·S Stainless Steel saves money in three ways. By reducing the time out for cleaning and maintenance. By producing a higher quality of finished product. By prolonging the life of equipment.

Because even the most stubborn pigments cannot get a "toe-hold" on the permanently smooth, dense surface of U·S·S Stainless Steel, dye tanks, kettles and kiers clean easily and quickly—color changes are more rapidly effected—there is no carry-over or bleeding to cause off-colors in the finished cloth. This not only means more production but it means close matching dye-lots, a faster selling product that commands better prices.

Because U·S·S Stainless Steel is unaffected by most dyeing and finishing agents—hot or cold, acid or alkali—because it is strong to resist hard knocks and has superior ability to withstand high heat and high pressure, its useful life is practically without limit. As the years go on, the measurable returns on the investment in stainless grow and grow.

When your equipment replacements are under consideration, plan to spend wisely for the future and specify "Made of U·S·S Stainless." Never forget, first cost is its last cost.

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*

United States Steel Supply Company, Chicago, *Warehouse Distributors*
United States Steel Export Company, New York

USS STAINLESS STEEL — UNITED STATES STEEL

UNITED STATES STEEL

These 6 Innovations . . .

by SMITH-DRUM In Package Dyeing Are Now Considered *"Essentials"*

In 1937, a new package dyeing machine of radically-advanced design was offered the textile industry by Smith-Drum. It embodied 6 major features never before available in any package dyeing machine. Acceptance of this machine and its 6 major advantages was almost instantaneous! Since then, these features have come to be regarded by most as absolutely essential for satisfactory package dyeing.

. . . And New Developments Coming

A number of important new features for the postwar Smith-Drum Package Dyeing Machines are already under development. Be assured, your orders placed *now* for postwar delivery will naturally include these new developments . . . guaranteeing to you the most advanced machine of its type, no matter *what* Smith-Drum machine you order. To get earliest possible delivery we urge you to order *right now!* Write . . . Smith, Drum & Company, Allegheny Avenue at 5th Street, Philadelphia 33, Pa.

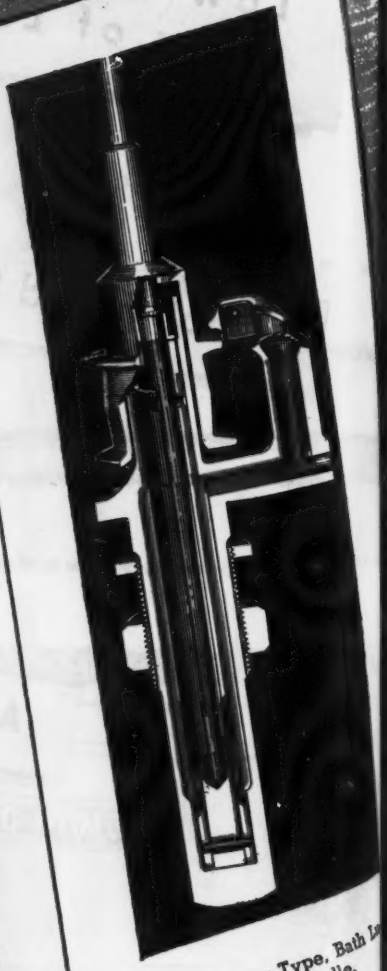
MITH-DRUM Textile Machines

for hosiery dyeing, skein dyeing, package dyeing, beam dyeing, piece goods dyeing, package drying, skein mercerizing, warp mercerizing, hosiery inspection.

NOW TYCOL

Modern Roller Bearing Type, Bath Lubricated Spindle.

Modern Mule Spindle Equipped with Ball Step Bearing.



Plain Bearing Type, Bath Lubricated Spindle.

DRUMS! DRUMS! DRUMS!

War needs make it extremely important that all empty drums be returned promptly.

INDUSTRIAL TYCOL GREASES

TIDE WATER

Principal Branch Offices:

Boston • Philadelphia • Pittsburgh • Charlotte, N. C.

ENGINEERS A NEW SPINDLE OIL

for High Speed Operation

Correctly "engineered" spindle lubrication is a decisive factor in efficient spindle performance . . . especially where spindle speeds of 7,500 rpm or higher are used.

To obtain the best results . . . to promote maximum spinning production through friction-free operation, Tycol offers its new High Speed Spindle Oil 105. This oil is refined from selected 100% Pennsylvania Crude. Its extremely high "Flash Point*", low viscosity, and marked resistance to oxidation – plus its ability to maintain body under high temperatures, makes it a truly outstanding lubricant for high-speed spindles.

Don't take chances. Keep production at a maximum. Use Tycol 105 – the oil scientifically "engineered" to meet your high-speed spindle requirements. See your nearest Tide Water Associated office for full details.

***FLASH POINT** WHAT IT IS — FULLY EXPLAINED IN TIDE WATER ASSOCIATED "LUBRICANIA"

This informative handbook gives clear, concise descriptions of the basic tests used to determine important lubrication properties — Flash Point, Viscosity, Pour-Point and many others. Send for your free copy today. Write: Tide Water Associated Oil Co., 17 Battery Pl., New York 4, N. Y.

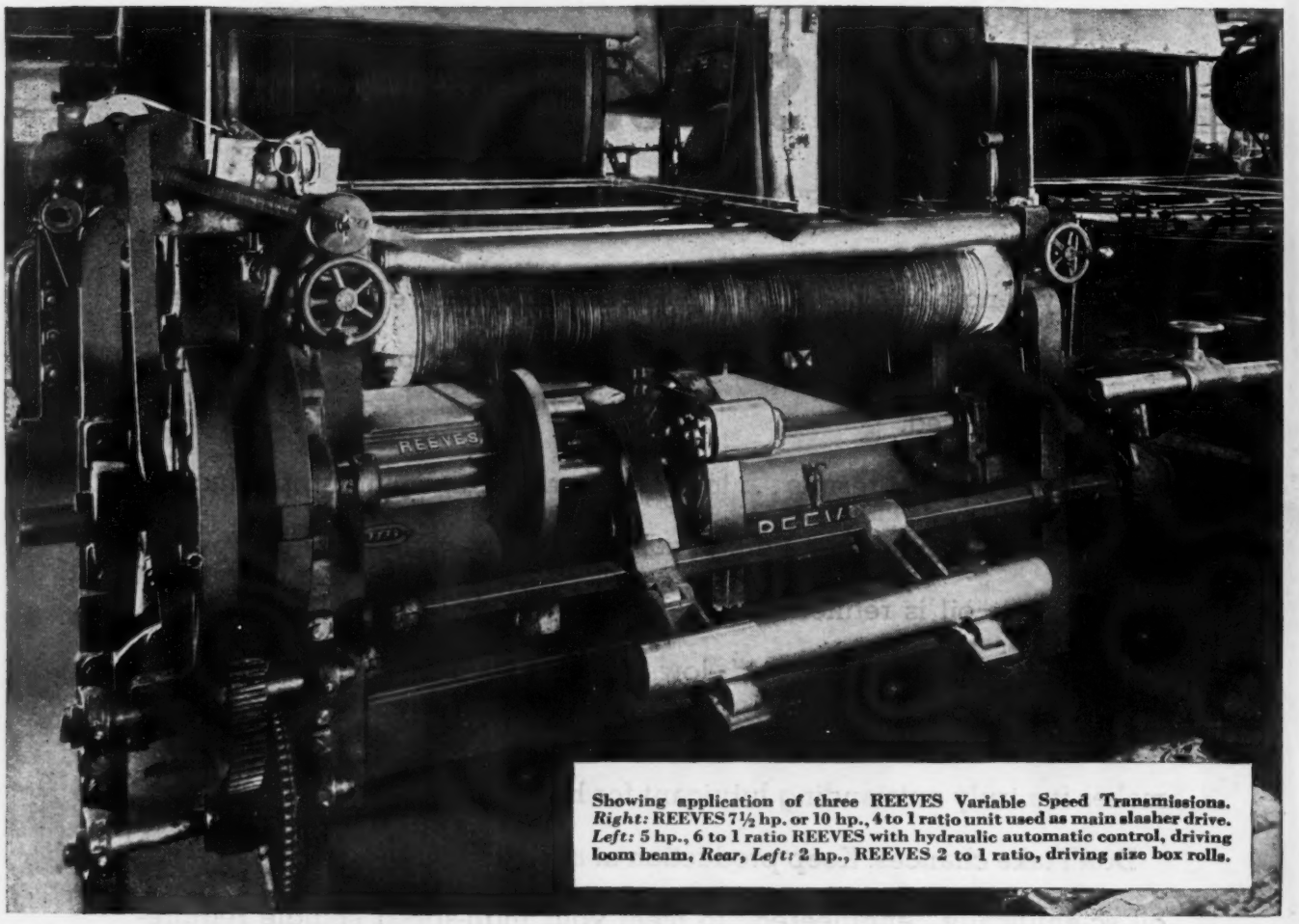
ASSOCIATED OIL COMPANY

TIDE WATER OIL COMPANY OF CANADA, LTD.
Toronto • Montreal

MAKERS OF THE FAMOUS VEEDOL MOTOR OIL
Eastern Division:
17 Battery Place, New York 4, N. Y.

COMPLETE SLASHER CONTROL

Insures Better Weaving



Showing application of three REEVES Variable Speed Transmissions. *Right:* REEVES 7½ hp. or 10 hp., 4 to 1 ratio unit used as main slasher drive. *Left:* 5 hp., 6 to 1 ratio REEVES with hydraulic automatic control, driving loom beam, *Rear, Left:* 2 hp., REEVES 2 to 1 ratio, driving size box rolls.

Apply REEVES Variable Speed Transmissions at 3 Points for Accurate Control of Moisture, Stretch and Tension

You can reduce the breaks and loom stoppage and better the quality of the cloth when these 3 improvements are made in the slasher process:

(1) Assure the correct moisture content of the warp yarn. (2) Eliminate undue stretch and the resultant weakening of the yarn. (3) Maintain uniform pre-set tension between delivery roll and loom beam throughout the building of a beam to retain the elasticity in the yarn and make a beam of desired density.

All this can be accomplished by applying REEVES Variable Speed Control at 3 points on the slasher, as pictured above.

The REEVES Transmission, installed as the main slasher drive, provides the right speed setting for all sets, from lightest to heaviest. The REEVES also assures the very fine speed adjustments that can be made from time to time to keep the yarn from being wound on the loom beam too dry or too wet. These adjustments are made by turning the REEVES handwheel.

Stretch is accurately and continuously regulated through a small size vertical, enclosed REEVES Transmission driving the size box rolls. By turning the REEVES handwheel, the r.p.m. of the size box rolls is adjusted perfectly to give precisely the desired tension and stretch of the yarn.

The REEVES Transmission, with piston-type hydraulic control, applied to the loom beam, automatically reduces the r.p.m. of the loom beam and maintains constant y.p.m. surface speed as it increases in diameter. It holds constant tension on yarn and makes a beam of uniform density throughout. The control may be set for tension desired on sets to be run; then remain same until reset.

Yarn stretch in the slasher has been reduced to less than 1% when equipped with these 3 REEVES drives. Write us about an application in your plant. Ask for Bulletin W-446. Our seasoned engineers are at your service.

REEVES PULLEY COMPANY
COLUMBUS, INDIANA

REEVES SPEED CONTROL

FOR THE *flow of fabrics*

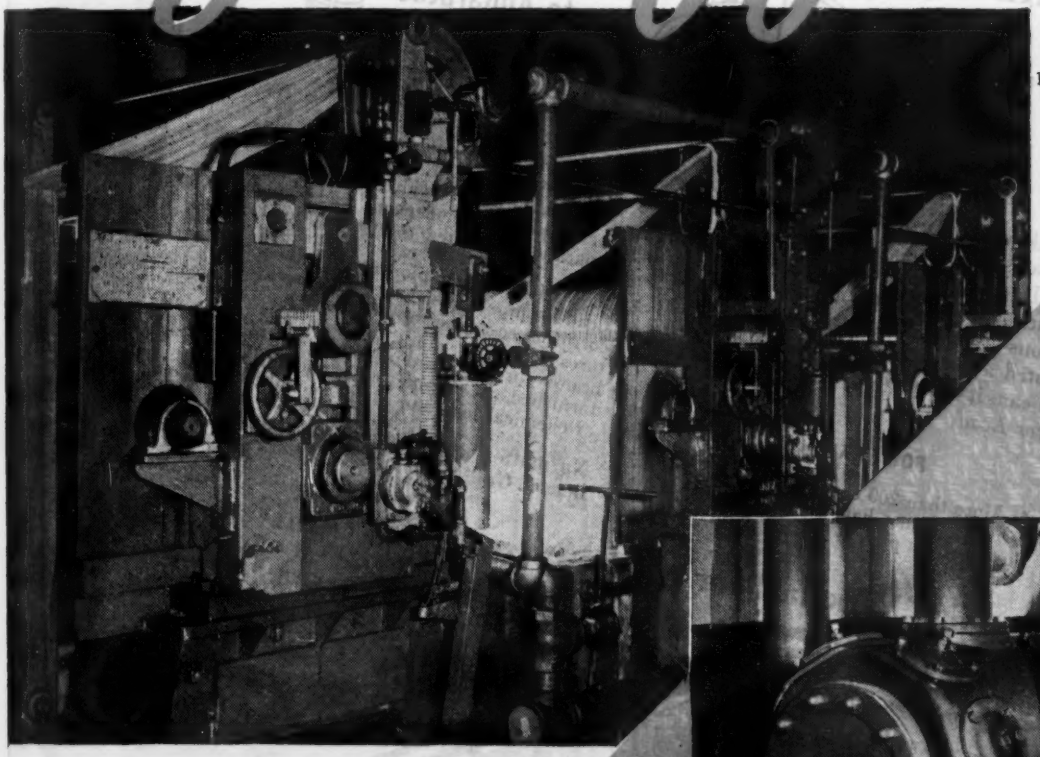
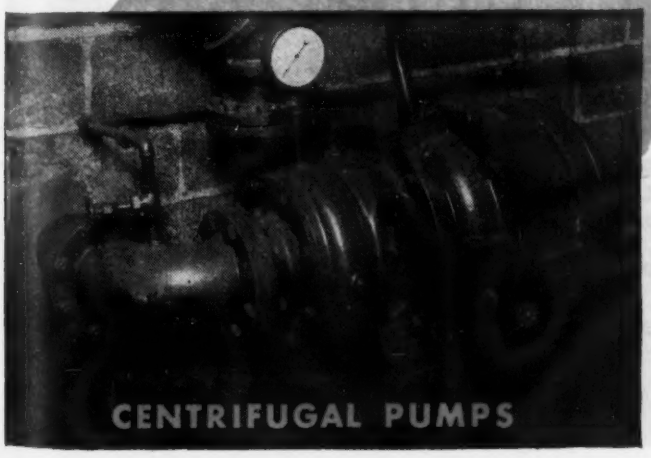


Photo Riggs & Lombard.

Air-operated cylinders regulate the squeeze-rolls on this Riggs & Lombard Continuous Washer.

FLUIDS—Air, water, size, dyes, suds—are essential to the smooth flow of fabrics. In many mills the dependable flow of these fluids is assured by the reliable performance of I-R Air Compressors and Centrifugal Pumps.

The Class ES Compressor is particularly suited for supplying air power for humidification, cleaning, liquid agitation, operation of air tools and for the increasing number of compressed air appliances used on textile machinery.



Motorpumps are widely used for humidification, for pumping size, dye solutions, for boiler-feed—in fact, there is an I-R pump for practically every textile mill service.

Let an Ingersoll-Rand engineer help you with your fluid problems—air and liquids. He knows from experience.

Ingersoll-Rand

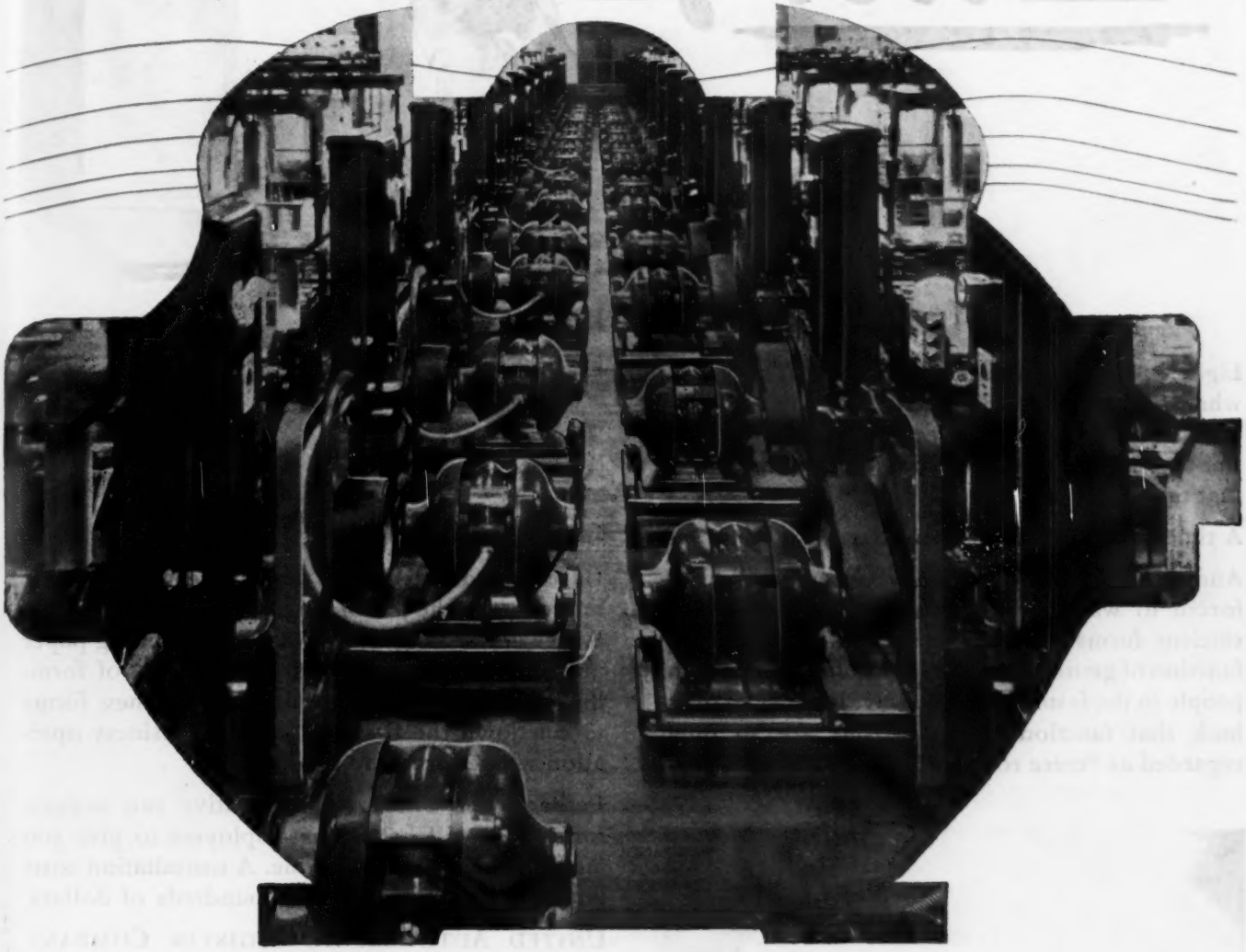
11 BROADWAY, NEW YORK 4, N. Y.

COMPRESSORS • TURBO-BLOWERS • ROCK DRILLS • AIR TOOLS
CENTRIFUGAL PUMPS • CONDENSERS • OIL AND GAS ENGINES

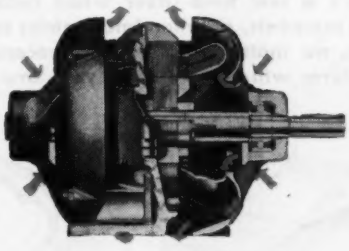
4-658

Tons upon Tons of Experience
...from Sheet Lead
...to Apparatus
...to Acid Recovery Plants
Making acid behave—that's National Lead's long suit.
In every field handling corrosive chemicals—in thousands of installations—National Lead has accumulated a storehouse of knowledge that means it will pay you to Go "National" for Lead.
FOR EXAMPLE:
1. More than 200 complete sulfuric acid recovery plants have been built for industry—from plan to finished structure...
2. Acid-handling equipment of all kinds has been designed ... including all-lead, lead lined or covered valves, pipe, fittings ...and special homogeneous lead-bonded apparatus fabricated to specification ...
3. National Lead pioneered Tellurium Lead for pipe and sheet, giving improved corrosion resistance at elevated temperatures and greater ability to withstand vibratory stress ... and of course, has long furnished sheet, pipe, coils and fittings of chemical lead and of antimonial lead.
No matter what your needs, remember ... Go "National" for Lead.
Go "National" for Lead
NATIONAL LEAD COMPANY
111 Broadway, New York 6, N. Y.
Offices and Plants in Principal Cities and Canada
Mills-Packard chamber plant of U. S. Phosphoric Products Division, Tennessee Corp., built after Pearl Harbor to help meet the urgent need for wartime acid. The O. G. Kelly Company of Boston handled the lead erection and burning. 850 tons of lead were required for the 20 chambers.

THE SHAPE THAT REDUCES MOTOR MAINTENANCE



Here's how the Lint-Free Motor cleans itself. This simple construction will cut your maintenance costs —and your repair parts needs. Get the complete facts—write for folder B-3515.



No other motor looks exactly like it. That's because it has six built-in wind tunnels. Ever hear of lint settling in a wind tunnel? Then you know why these motors are *Lint-Free*.

Air (and air-borne lint) go in—through—and out—*fast*—to keep the motor cool and *clean*. For more production *with less maintenance*, look for the motor with the air-flow shape—the Westinghouse Lint-Free Motor. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-21321

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

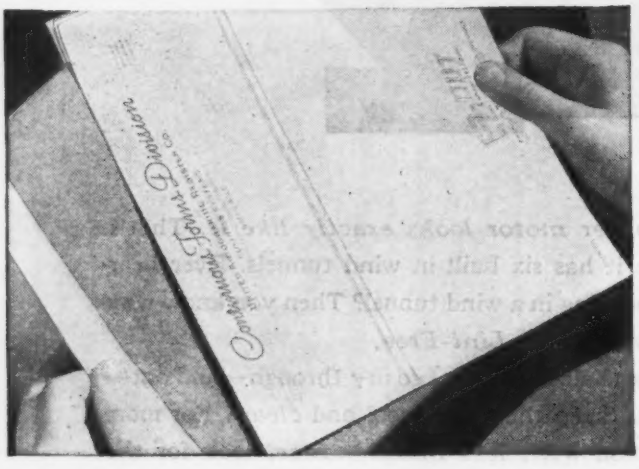
LINT-FREE MOTORS

"Liar!"

Eight hours of productive work. That's what time cards indicate. It's the kind of service good employees try to give. But they know, even if the boss does not, that time clocks lie.

A time clock, you see, doesn't record *wasted time.*

And in many a business today, employees are forced to waste time because they are using inefficient forms—forms that fail in their primary function of getting the right information to the right people in the fastest possible way. It's easy to overlook that function because forms are so often regarded as "mere routine."



Uarco has devoted more than 50 years of thought and effort to the job of making forms work faster. We've devised ingenious ways of combining paper and carbons to save from 17% to 78% of form-handling time. We've invented entirely new forms to cut down the time-lag in *every* business operation where forms are used.

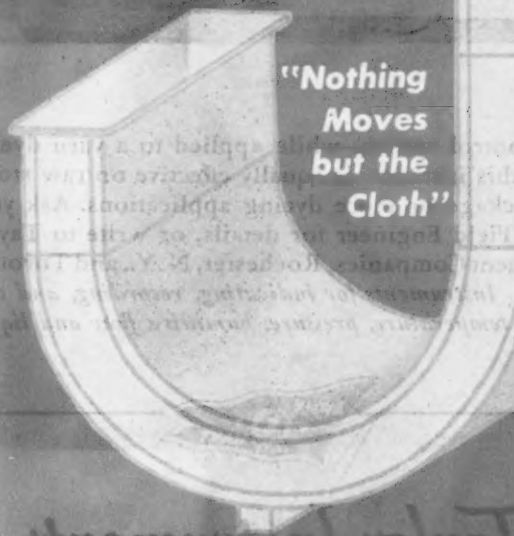
Perhaps the Uarco Representative can suggest forms that will help your employees to give you more of their *productive* time. A consultation costs nothing—and may save you hundreds of dollars.

UNITED AUTOGRAPHIC REGISTER COMPANY
Chicago, Cleveland, Oakland • *Offices in All Principal Cities*

for instance . . .

We call this form the Uarco E-Z-Out. Up to 6 copies with pencil . . . up to 17 copies with typewriter. Then snap! Out pop the forms ready for instant distribution . . . singly or all at once. Here's a real time-saver when records must be written at odd moments, or when later entries are necessary. But remember, no matter what type of records you keep, Uarco has a form which may save you time and money!

A quicker, better and cheaper bleach with BECCO CONTINUOUS PEROXIDE BLEACHING



By this method cotton goods are bleached by forcing steam through the material after it has been saturated with a suitable hydrogen peroxide solution. The amount of solution used per pound of cloth is much less than used for kier bleaching. Less water has to be heated. By using steam, temperatures are higher than used heretofore. Both these factors combine to give a better bleach, in a shorter time and at a lower cost. Steam bleaching means higher production and shorter processing time.

Becco engineers are experts in all branches of textile bleaching. They will be glad to survey your plant facilities and equipment and make recommendations as to how plant practices may be improved and costs reduced. They will be glad to tell you truthfully whether your volume justifies the investment required for the installation of continuous bleaching. They will advise you as to the best and most suitable process, equipment and chemicals to use to most economically suit your requirements.

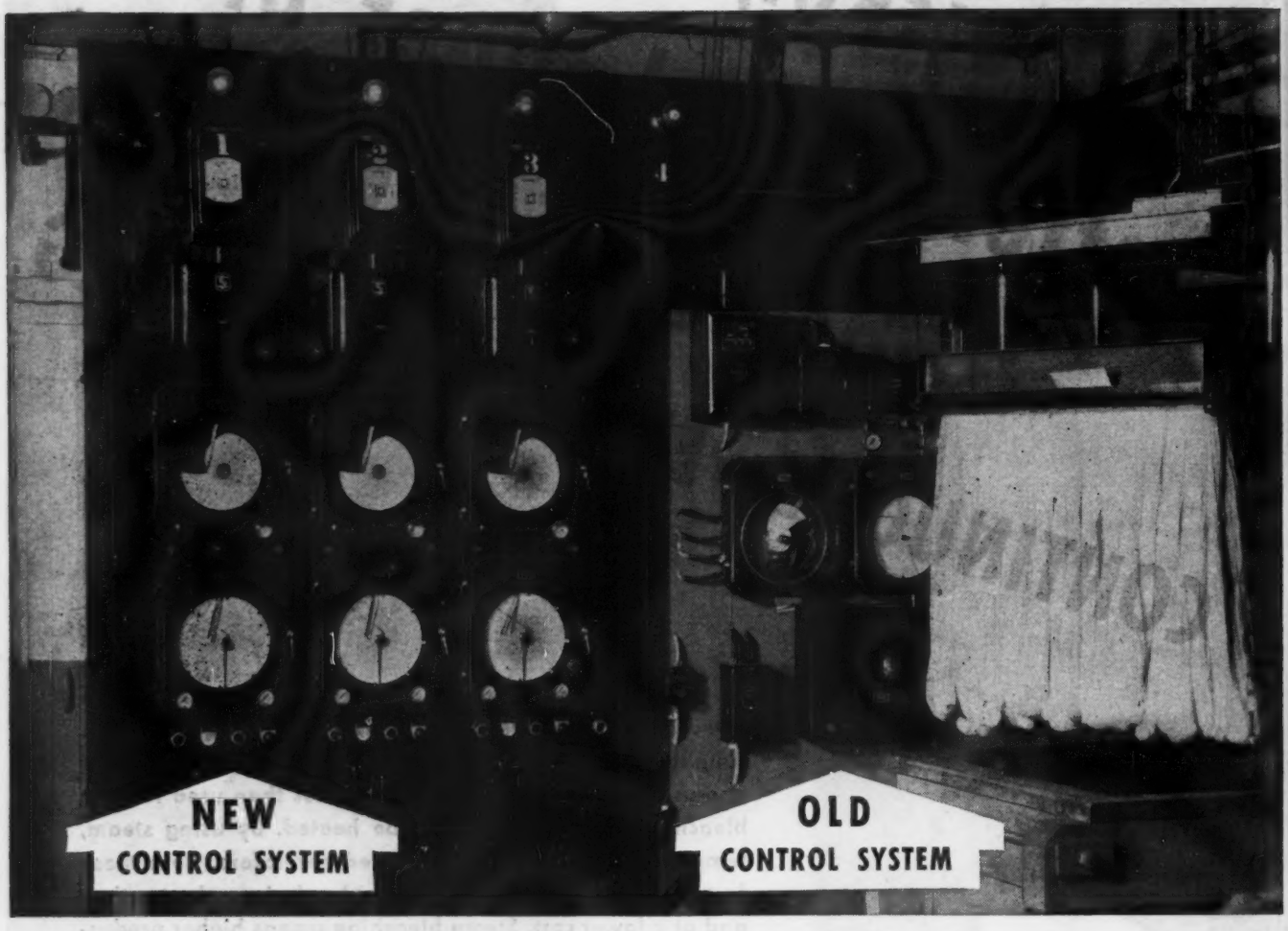
BECCO

BECCO SALES CORPORATION

AGENTS FOR BUFFALO ELECTRO-CHEMICAL CO., INC., BUFFALO 7, N. Y.

New York Boston Philadelphia Chicago Charlotte

Look how much we've improved automatic dye-vat control!



THE arrows tell the story. Each one of the three new Taylor Time-Schedule controls on the left (nos. 1 to 3 above) does the same job as the far more complicated setup on the right (no. 4), and does it *better.* The sequence and duration of all the temperature and auxiliary functions are controlled from within the new instrument—more simply, less expensively, and more easily adapted to changes in future processing requirements.

Now all the operator has to do is load the vat and push a button, and the whole dyeing process is carried on automatically. Temperature is held to a degree of accuracy not previously believed possible. Timing is precise.

One cam handles *all* schedules. All timings are set on graduated dials—rise period, hold period, rotation of agitator, add periods. Agitator motor always starts in reverse direction—hanks of yarn are straightened out immediately.

BUY ANOTHER WAR BOND TODAY!

This control system, while applied to a yarn dyeing job in this instance, is equally effective on raw stock, top, package or piece dyeing applications. Ask your Taylor Field Engineer for details, or write to Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada. *Instruments for indicating, recording, and controlling temperature, pressure, humidity, flow and liquid level.*

ARMY E NAVY

Taylor Instruments

MEAN

ACCURACY FIRST

IN HOME AND INDUSTRY

IT'S

YOUR

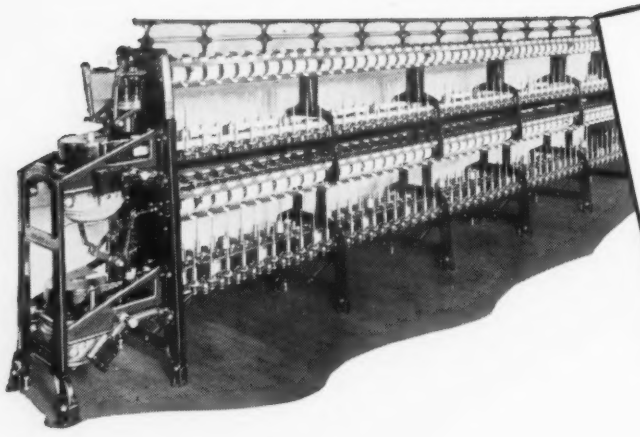
Advantage

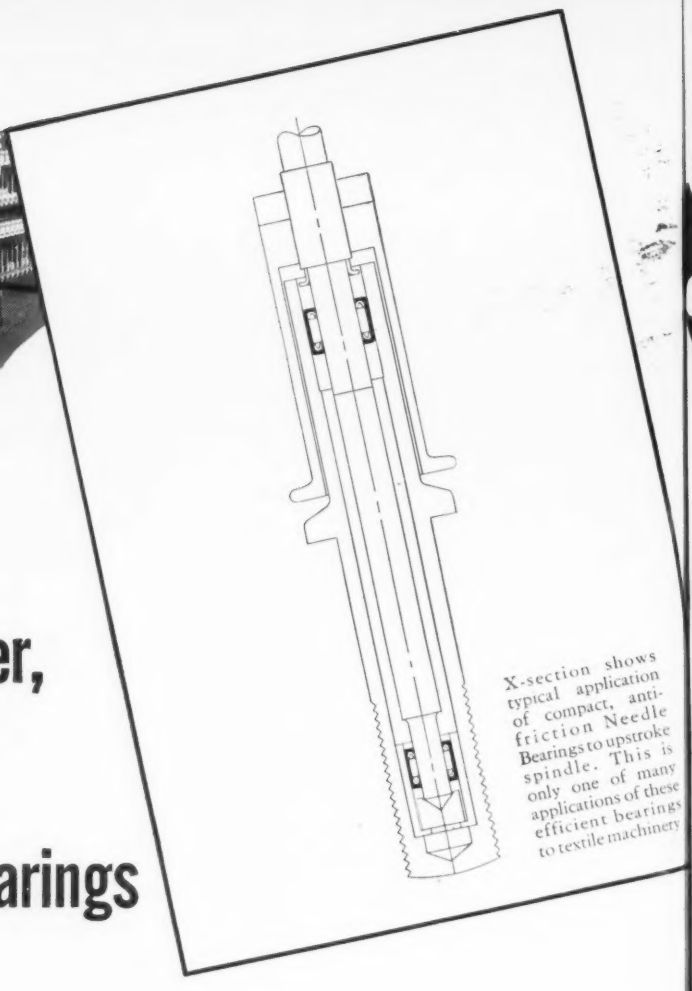
in selling when your merchandise stands out for the distinguished quality of its knitting. Such knitting *demands* the use of fine needles. Let the machine-controlled uniformity of Torrington Needles help you achieve and maintain this advantage.

TORRINGTON
Latch Needles

THE TORRINGTON COMPANY
Torrington, Conn., U. S. A.
Established 1866

Branches: New York • Philadelphia
Chicago • Greensboro, N. C. • Boston
St. Louis • Toronto, Canada





X-section shows typical application of compact, anti-friction Needle Bearings to upstroke spindle. This is only one of many applications of these efficient bearings to textile machinery

Your Spindles Turn Faster, More Efficiently On Torrington Needle Bearings

Torrington anti-friction Needle Bearings help your spindles turn faster, more efficiently . . . handle heavier packages . . . stand up to longer periods of sustained operation . . . give you more output with less maintenance bother.

Small and compact, these modern anti-friction bearings are carefully engineered for efficiency of lubrication, high load capacity, long and trouble-free life. On spindles and other textile machinery, wherever the goal is more efficient operation and output, you'll find Torrington Needle Bearings "doing a job."

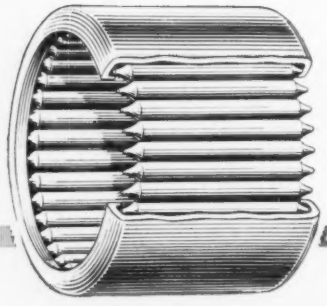
In replacing your present machinery, it will pay you to know what Torrington Needle Bearings can do for you. Write us for further data or send for our Catalog 30-A, showing the numerous types, sizes and applications to your specialized needs.

•

THE TORRINGTON COMPANY

TORRINGTON, CONN. • SOUTH BEND 21, IND.

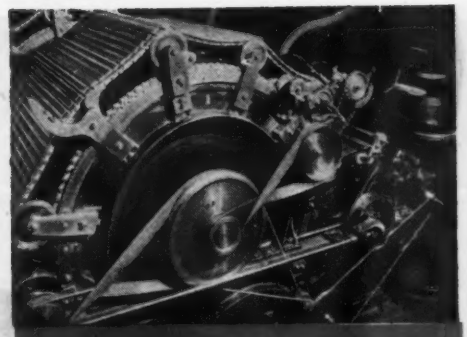
New York Boston Philadelphia Detroit Cleveland
Seattle Chicago San Francisco Los Angeles Toronto
London, England



TORRINGTON NEEDLE BEARINGS

Gilmer BELTS

A highly specialized line for the textile industry

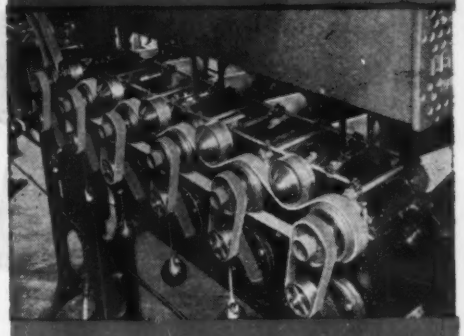


GILMER KABLE KORD LICKERIN BELTS. A contactor and power belt in one. Noted for exceptional grip, low stretch, small slippage and high tensile strength. Stand up long in service.

Long and close association of Gilmer engineers with the textile industry has resulted in the development of an extensive line of belts covering practically every power transmission need.

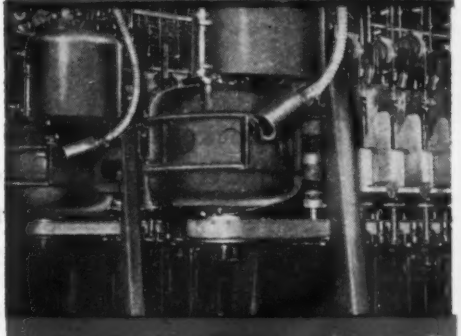
The Gilmer line ranges from small-diameter, high-speed belts to large, hard-pulling power belts that are capable of handling any load. There are Gilmer V-Belts, flat belts, round belts—endless and non-endless—and of varied types of construction and treatment to meet each specific need.

If there is a power transmission problem in your mill, it will pay you to discuss it with the Gilmer Engineering Staff.



GILMER HEVALOID GAINER BELTS. Made under Hevaloid patent with Neoprene compound, which provides high coefficient of friction. For precision work at 9000 f.p.m. Resist oil, heat, stretch and slippage.

OTHER GILMER BELTS include Endless Round Belts for carding machines, Endless Cord Spinner Belts for silk throwing, etc. All are completely described in the handbook, "Gilmer Belts for the Textile Industry"—a book that simplifies the specifying of belts for a large majority of drives. Write for your FREE copy today.



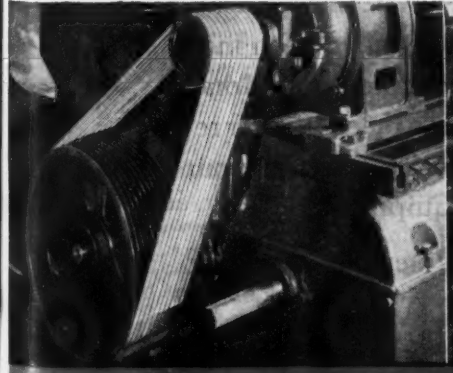
GILMER ENDLESS CORD SPINNER BELTS. Built with continuous cord construction to assure smooth and uniform spindle speed. A belt of high tensile strength, low stretch and long-life.

GILMER KABLE KORD BELTS and BELTING. Meet practically every flat, power belt need. Endless and non-endless. "Two belts in one"—contactor and power. Tight gripping, hard pulling, long wearing.

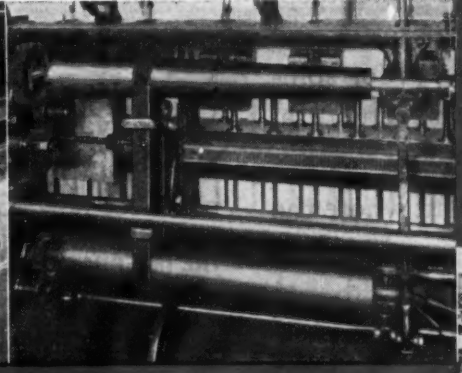
L. H. GILMER COMPANY

TACONY, PHILADELPHIA 35, PA.

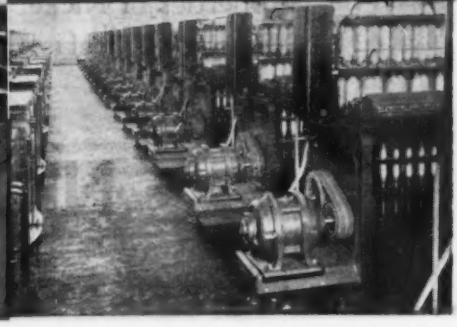
Division of United States Rubber Company



GILMER V-BELTS—FHP and multiple. Have many applications. Space saving, silent, shock absorbing. Built to lock in the grooves with a non-slip grip. In standard and special sizes.



GILMER CONE DRIVE BELTS. Reinforced multiple-jacket edges and rubber-locked internal structure check wear and unraveling from action of shifter forks. Assure longer life in the toughest service.



• Nickel and Monel prevent metallic contamination of rayon products . . . add strength to equipment . . . insure long, continuous service.

Consequently, these tough, corrosion-resistant metals are specified for spin bath evaporators and steeping tanks . . . for spinnerettes and filter backing screens . . . for spinning machinery shafts, structural parts and other equipment.

For heavy equipment where the properties of Nickel are desirable, Nickel-clad steel is often used . . . at a saving in cost.

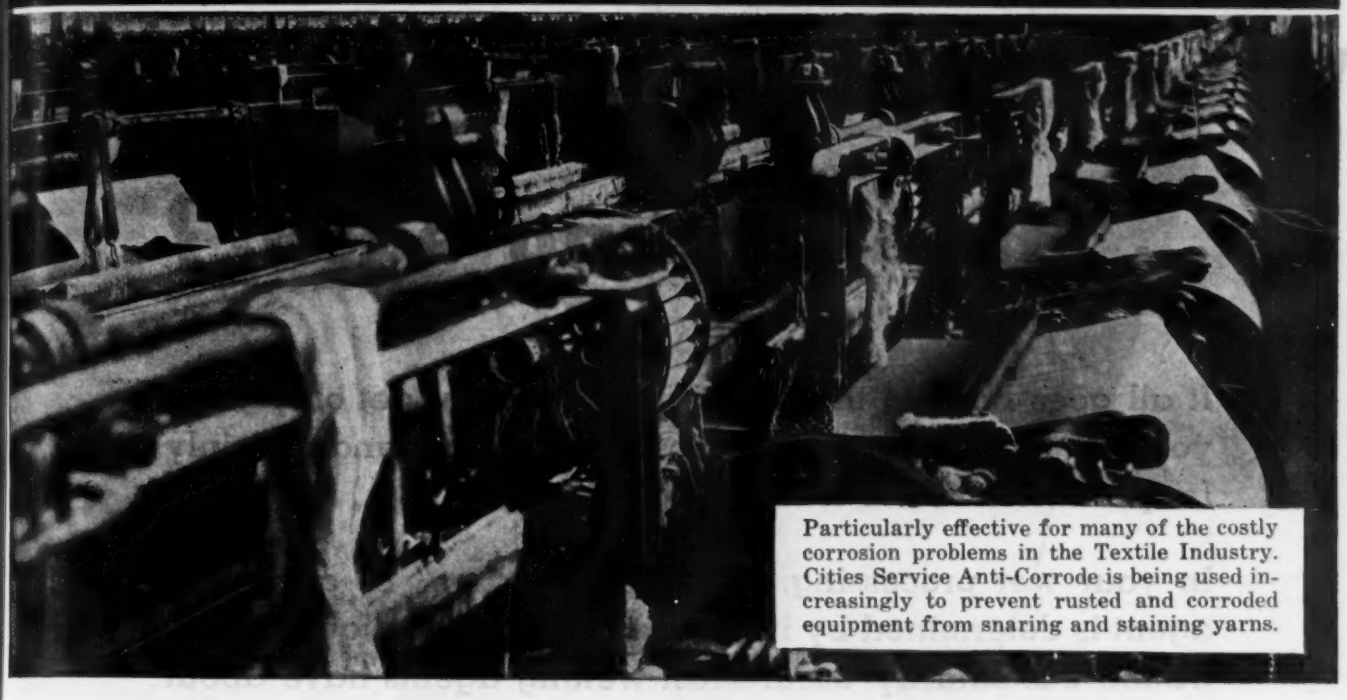
Although today's stock is limited, certain standard mill forms of Monel are available, as are shafting and various fastenings. Pump parts and other castings may be obtained in both Nickel and Monel.

After war needs have been met, Nickel, Nickel-clad steel and Monel will be available to meet all your requirements. Specify them in your plans for new equipment.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street **New York 5, N.Y.**

NICKEL and MONEL

STOP RUST *this New, Efficient Way—*



Particularly effective for many of the costly corrosion problems in the Textile Industry. Cities Service Anti-Corrode is being used increasingly to prevent rusted and corroded equipment from snaring and staining yarns.

Anti-Corrode film protects your metal equipment ...helps safeguard textile production

Anti-Corrode #100 is one of several new types of Cities Service protective coatings for metals. Designed to prevent corrosion of raw stocks, finished parts and completed machines—either in storage or in active service—Anti-Corrode adheres firmly to metal surfaces, displaces moisture and protects longer than similar materials now on the market.

Cities Service Anti-Corrode #100 may be applied by ordinary work-shop methods—spraying, dipping, brushing or rolling. Independent of metal quality, finish and irregularity of surface, the protective film is continuous and non-porous—does not break at sharp edges or rupture on flat surfaces.

Cities Service Anti-Corrode #100 serves as a lubricant as well as a rust preventive and need not be removed from metal to be stamped, drawn, or otherwise formed. It can be removed simply with kerosene or any petroleum solvent.

ANTI-CORRODE Gives You 10 BIG ADVANTAGES

1. Adheres to all metal surfaces.
2. Impervious to humid atmospheres.
3. Water-repellent.
4. Resistant to sun rays.
5. Chemically inert to ferrous and non-ferrous metals.
6. Inhibits "*under*" rusting.
7. Easy to apply—easy to remove.
8. Lubricates as it conserves.
9. Will not become brittle.
10. Protects metals in service or storage.

Whether your problem is to protect a single valuable tool or a million dollars worth of metal or equipment, write now for a *free* demonstration of Anti-Corrode. Mail the coupon today.

CITIES SERVICE OILS — ONCE-ALWAYS

CITIES SERVICE OIL COMPANY

ARKANSAS FUEL OIL COMPANY

ANTI-CORRODE

SAFEGUARD FOR THE TEXTILE INDUSTRY

Cities Service Oil Company
Room 307
60 Wall Tower, New York 5, N. Y.

Gentlemen: Please contact me for a FREE demonstration of Anti-Corrode in our plant. (This offer limited to industrial users in Cities Service marketing areas East of the Rockies.)

Name .....

Position .....

Company .....

Address .....

City ..... State .....

What does "money value" mean ... in a wetting agent?

It all goes back to the old saying that "you get only what you pay for." That goes for most things in life, and certainly for products used in textile processing.

In your wet processing, the "money value" of a wetting agent is determined by its wetting speed at the low concentration customarily used. Most wetting agents have about equal speed at high concentrations, but that is not a practical comparison.

In testing for real money value of a wetting agent, the lowest practical concentration should be the point at which such evaluation is made.

Other items to consider are the effect of temperature on wetting speed, also stability, uniformity and permanence of the wetting agent. On all counts, Houghton's SURFAX will be found to rate high; that's why so many mills use it. For prices and technical bulletin, write E. F. HOUGHTON & CO., Philadelphia 33, Pa., or Charlotte 1, N. C.

HOUGHTON'S SURFAX

● *Built by TAYLOR-STILES CO.*

On little jobs, too,

For Reliability!

SKF Bearings aren't always on the BIG jobs in the Textile industry—on spinning and twisting frames, warpers, slashers, agers, calenders, extractors, etc. They're on the *little* jobs, too, such as this "smallest" Fibre Cutting machine that cuts yarn ¼" to 6" long. They keep shafts in proper position . . . combine smoothness and continuity with low maintenance costs. The more the Textile Industry depends upon SKF Bearings, the more it aids the war effort. 5794

SKF INDUSTRIES, INC., PHILA. 34 PA.

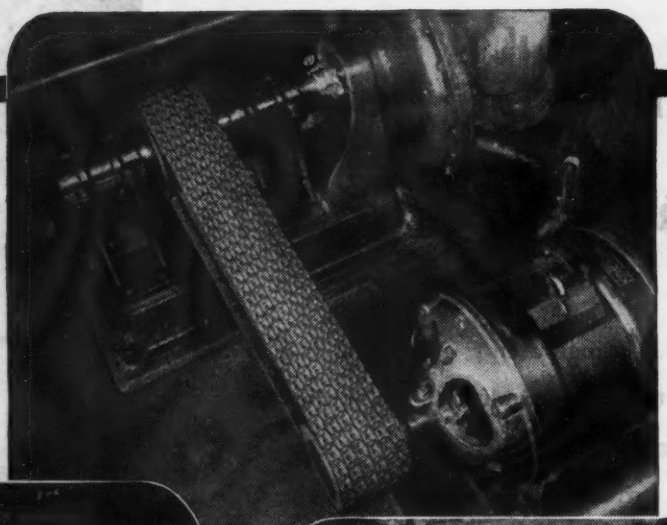
SPECIFY

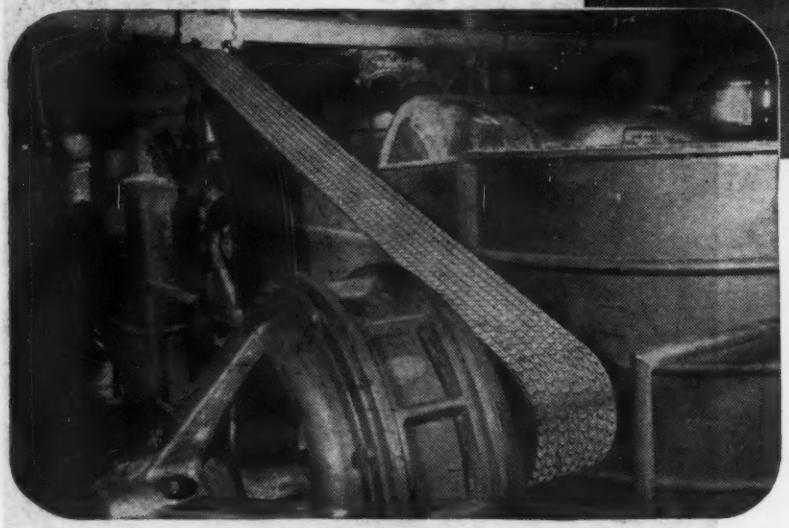
SKF

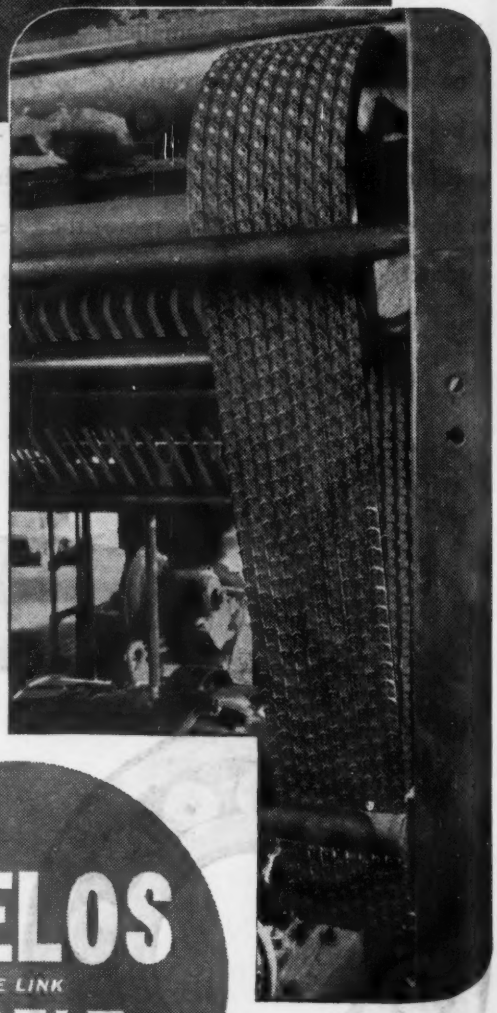
BEARINGS

"Easier to Install"

. . . SAYS
PLANT ENGINEER
ABOUT VEELOS







ON drive after drive in a big Eastern manufacturing plant . . . over a wide range of equipment . . . under a variety of service conditions . . . you'll find the belt used is Veelos. And Veelos, the adjustable, link V-belt, drives all of this equipment with maximum efficiency.

When asked *"Why Veelos?"*, the plant engineer replied, *"It's easier to install."* He was talking straight to the point! Easier installation is one of the big advantages provided by Veelos link construction. Among the others are:

1. Adjustability to End Slippage: Veelos link construction provides quick, easy tension adjustment to end slippage.

2. Controlled Tension Protects Bearings and Belts: Control of tension on each individual strand permits uniform, controlled tension in the entire drive. This protects bearings as well as belts.

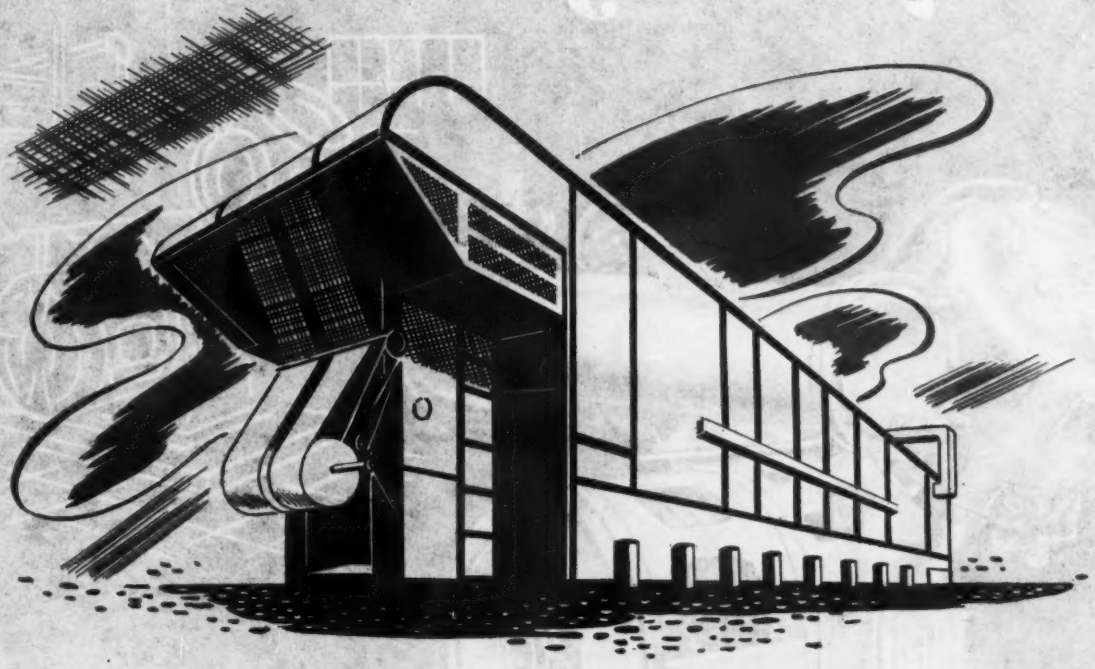
Learn How Link Construction Ups Production

Write today for free 8-page illustrated manual giving Veelos applications, construction detail, installation directions and engineering data.

MANHEIM MANUFACTURING & BELTING CO.
MANHEIM, PENNSYLVANIA

VEELOS
THE LINK
V-BELT
Adjustable to any Length
Adaptable to any Drive

SHEET* for Dryers



that fumes won't phase!

HOW UP-TO-DATE ARE YOU ON ALUMINUM?

ALUMINUM . . . R301 . . . and the other new light-weight, high-strength alloys developed by Reynolds metallurgists . . . are ideal metals for the construction of much textile mill equipment. This is especially true with dryers, where moisture and fumes must be guarded against.

Sheet of aluminum and aluminum alloys is light, tough, corrosion-resisting. Condensation, therefore, is colorless, will not stain fabrics. Machines last longer, too, give better service at lower cost.

Keep your dollars fighting . . . Buy More War Bonds.

*** Whatever your interest, whether you are a manufacturer or a user of textile equipment, write for complete information. Reynolds engineers will gladly work with your engineers. See Reynolds catalog in Sweet's, or write for Catalog No. 102, "Reynolds Aluminum. Its Important Role in Tomorrow's Products"; also Special Bulletin 22-A on Sheet and Strip. Reynolds Metals Company, Aluminum Division, 2535 South Third St., Louisville 1, Ky.**

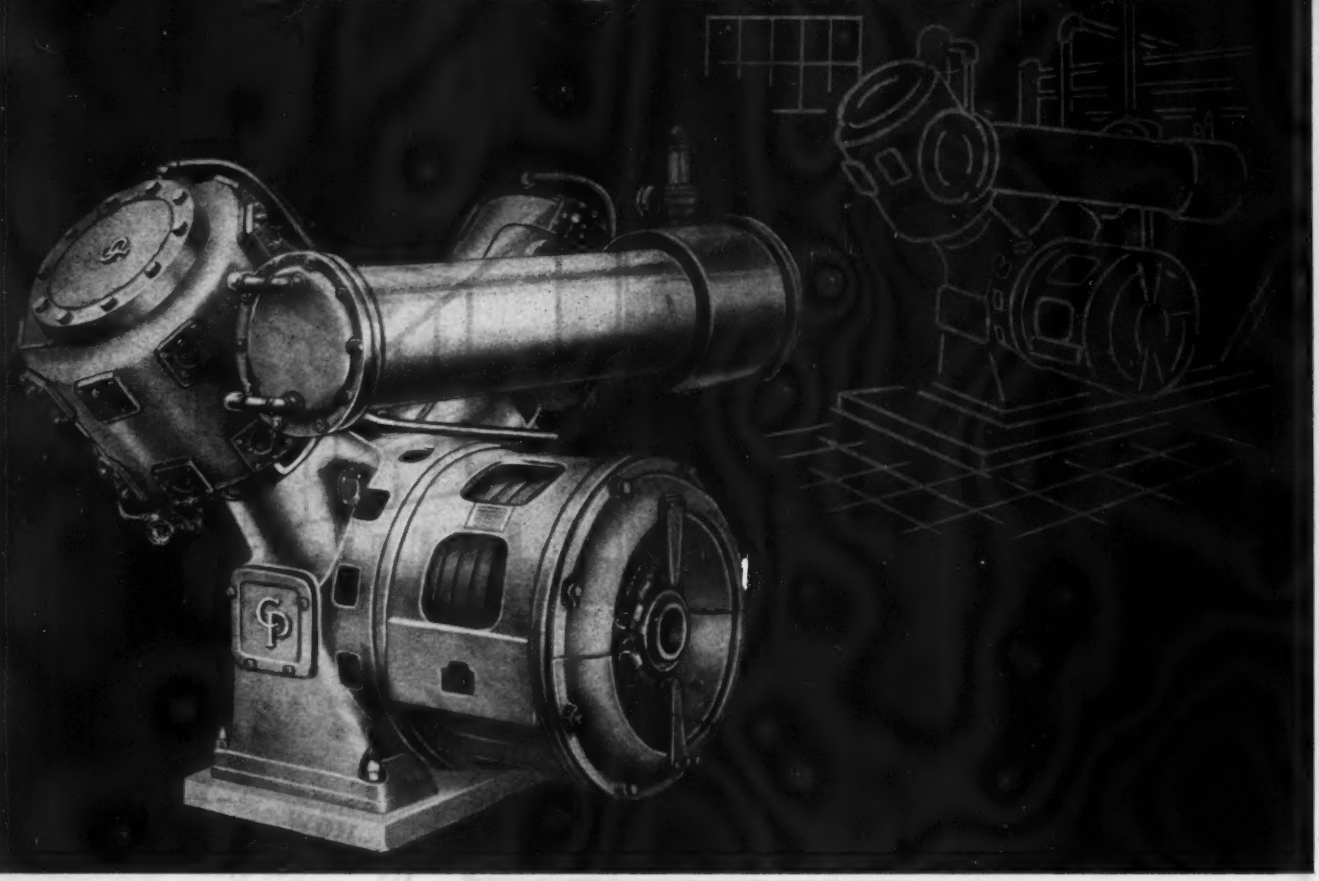
REYNOLDS METALS

REYNOLDS ALUMINUM

The Great New Source of

INGOT • SHEET • SHAPES • WIRE • ROD • BAR • TUBING • PARTS • FORGINGS • CASTINGS • FOIL • POWDER

SHIPPED INTACT
Quickly Installed



. . . CP "Package Type" Compressor

SHIPPED intact, all ready for external connections, CP Type Y Compressor is easily and quickly installed. It is exceptionally compact, requiring only minimum floor space. Large area Simplate valves, multi-step capacity regulation, effective intercooling, precision bearings and force-feed lubrication are responsible for its low power consumption and low maintenance costs. CP Type Y compressors with built-in or direct coupled motors or with V-belt drive are available in capacities of 300 to 900 c.f.m. at 80 to 125 pounds pressure; other sizes available for higher and lower pressures. Write for Bulletin 766.

There is a CP Compressor, stationary or portable, for every air requirement from 25 to 10,000 c.f.m. for pressures up to 5,000 pounds.

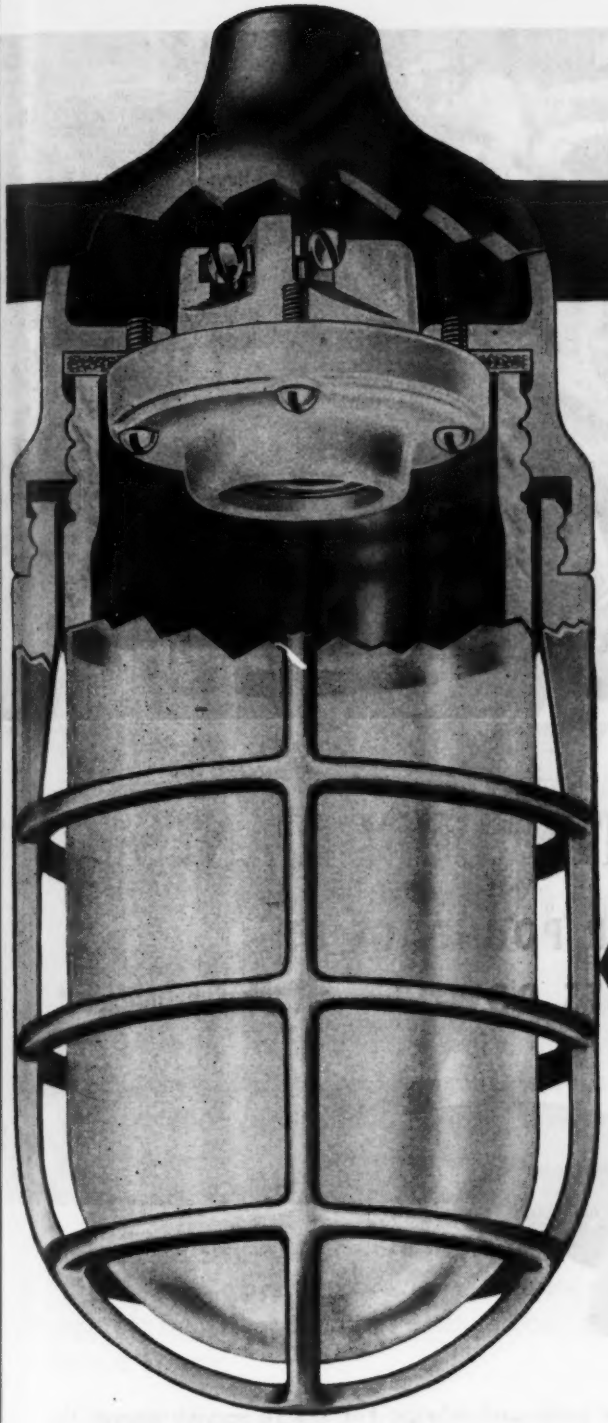
★★★★★★★★
PNEUMATIC TOOLS
ELECTRIC TOOLS
HYDRAULIC TOOLS
ROCK DRILLS

CHICAGO PNEUMATIC
TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

★★★★★★★★
AIR COMPRESSORS
VACUUM PUMPS
DIESEL ENGINES
AVIATION ACCESSORIES

Vaportight
Industrial Lighting
CONDULETS

(CONDULETS are made only by CROUSE-HINDS)



For use in indoor and outdoor locations where exposed to non-explosive vapors and gases or moisture and rain. Also for use where exposed to non-combustible dusts or where lodgement of combustible fibres or flyings is unlikely.

Vaportight and raintight.

Wiring chamber remains vaportight even though globe is off.

Screw guard or clamp guard types.

12 Hub arrangements.

4 Reflector styles.

Accessories: colored globes, guards, half shades, adapters.

4 Sizes: 50 through 500-Watt.

Other ***Vaportight*** lighting fixtures are available for attachment to many round-base Condulets and sheet steel outlet boxes. Crouse-Hinds complete ***Vaportight*** line includes hand lamps, switches, plug receptacles, and other electrical devices.

A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY
SYRACUSE 1, N. Y., U.S.A.

Offices: Birmingham · Boston · Chicago · Cincinnati · Cleveland—Dallas—Denver · Detroit · Houston · Indianapolis · Kansas City · Los Angeles · Milwaukee · Minneapolis · New York · Philadelphia · Pittsburgh · San Francisco—Seattle · St. Louis—Washington. *Resident Product Engineers:* Albany · Atlanta · Charlotte · New Orleans

CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

Actual photo of a Gulf Service Engineer (right) consulting with mill Owner and Superintendent on winder lubrication.

"GULF QUALITY LUBRICANTS HELP US KEEP POUNDAGE UP AND MAINTENANCE COSTS DOWN"— says this Superintendent

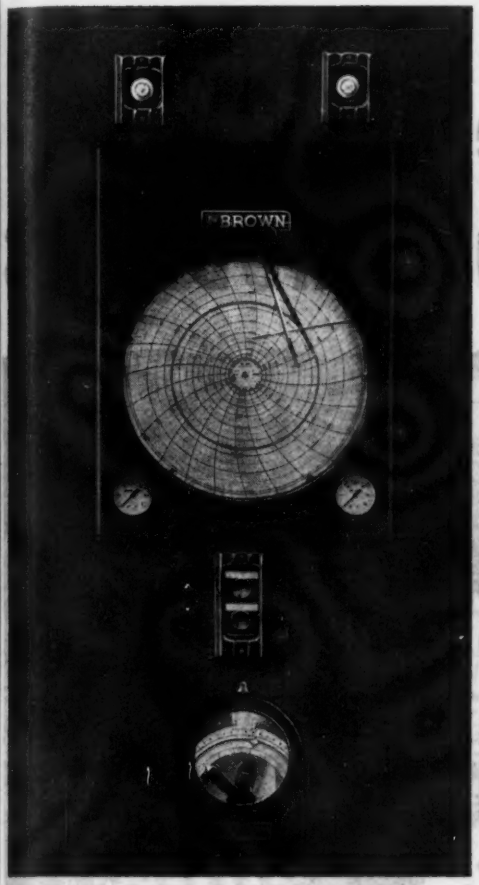
WHEN this winder was installed 3 years ago," says this Superintendent, "we called in a Gulf Service Engineer and adopted the lubrication practice and the quality lubricants he recommended. This step has paid us big dividends—maximum poundage, no shutdowns for repairs, and negligible maintenance costs."

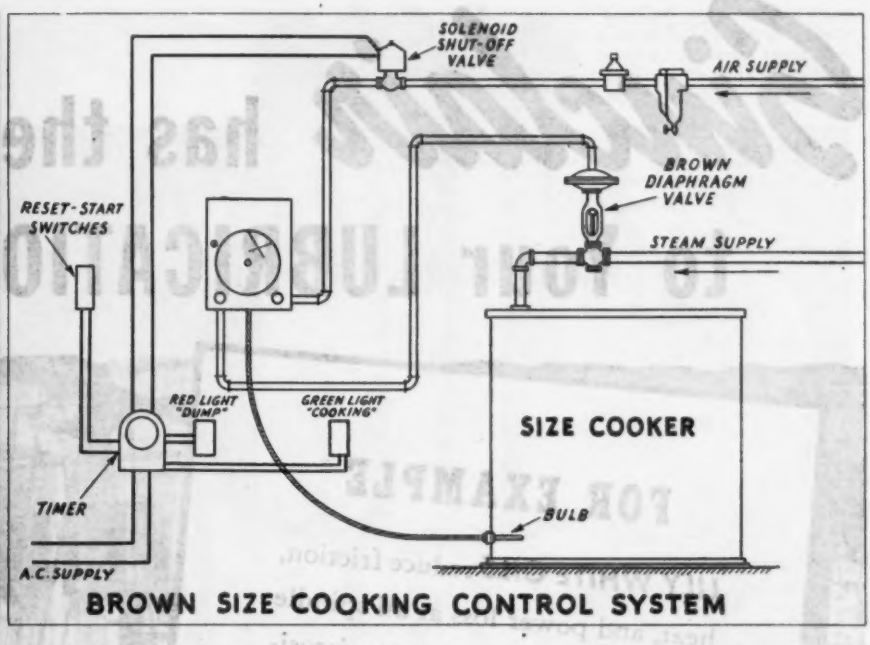
The *production insurance value* of Gulf quality lubricants shows up today—when textile mill equipment must be pushed to the limit to meet wartime demands for yarns and fabrics. For severe service proves the superior lubricating value and long life of these lubricants—they provide the kind of protection that helps keep machines up to maximum production, with low costs for maintenance and power.

Call in a Gulf Service Engineer and let him show you how Gulf quality lubricants can help you with your maintenance problems. Write, wire, or phone your nearest Gulf office.

GULF OIL CORPORATION · GULF REFINING COMPANY
GULF BUILDING, PITTSBURGH 30, PA.

GULF INDUSTRIAL LUBRICATION





BROWN SIZE COOKING CONTROL SYSTEM

Completely installed—includes Brown Recording Thermometer Controller (air-operated 10% Throttlor), Diaphragm Valve, Timer, Solenoid Valve, Switches, Signal Lights and all accessories

How to get UNIFORM SIZE COOKING

To secure uniform results in sizing cotton yarn or cloth and to avoid streaky, defective goods, the sizing preparation must always be of the same viscosity, which means that it must be kept at the same temperature constantly from batch to batch.

Size Cooking with the Brown Time-Temperature Control System prevents lumping and assures that the product contains no undissolved starch.

During the cooking period steam is throttled down to give slow, even cooking with the temperature never varying from the desired control point. There is no risk of "boiling over" and it frees the operator for other duties.

The Brown Thermometer Controller throttles steam flow so the temperature of the kettle is dropped to that of the storage kettle and held there indefinitely, or automatically shuts off the steam at the end of the cooking cycle.

When the kettle is dumped and refilled, the operator then pushes an external button which automatically resets the control system for another cook, without opening the instrument door.

The Brown Size Cooking Control System is simple in operation and quick in response. The flexibility of the Brown Thermometer Controller provides any desired cycle of control which can be obtained by simply setting the time period and the temperature control point. The rest is automatic. This means dollars and cents savings in obtaining uniform size cooking.

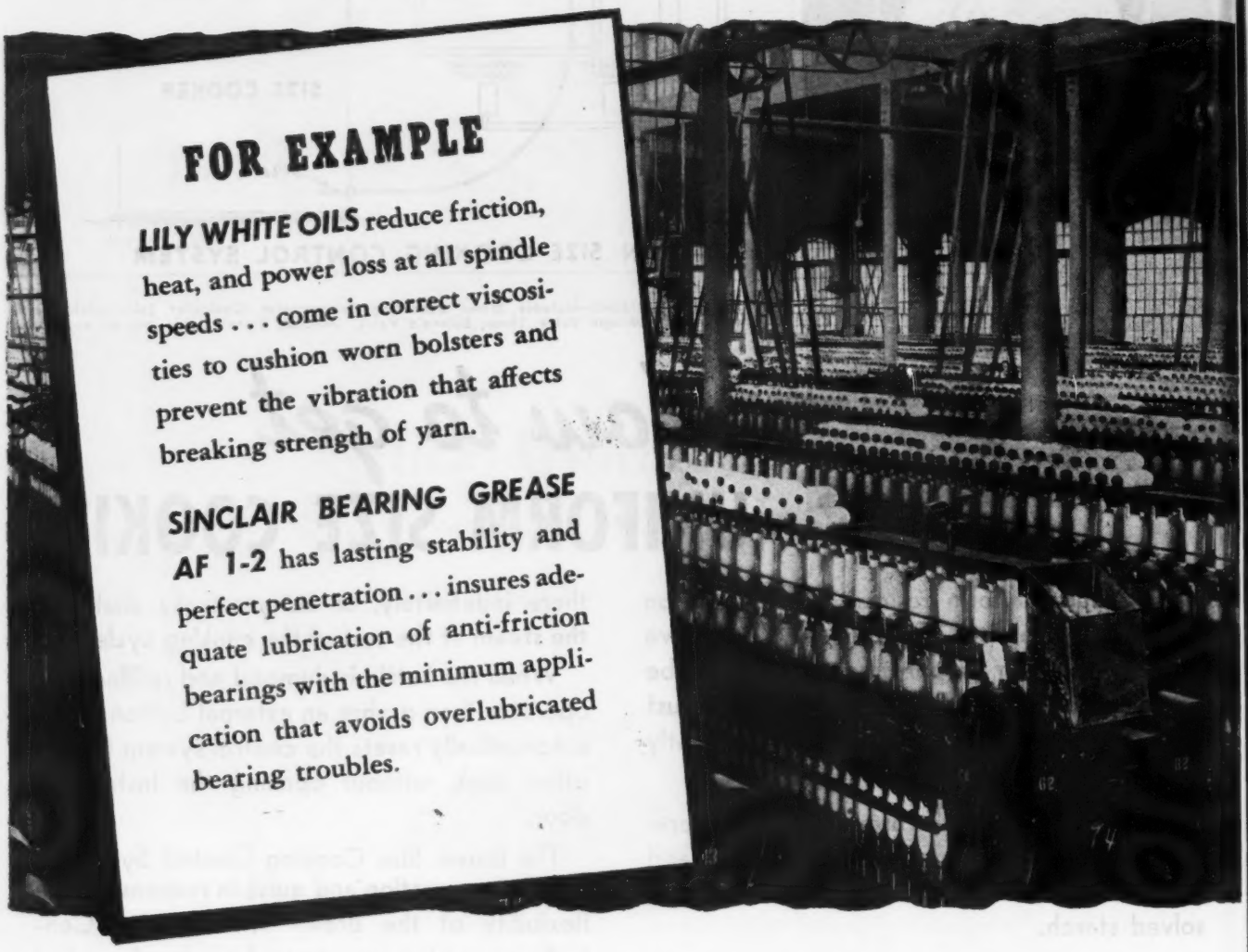
Write for catalog. The Brown Instrument Company, *a division of Minneapolis-Honeywell Regulator* Co., 4509 Wayne Avenue, Philadelphia, 44, Pa. Branch offices in all principal cities.

BOSTON OFFICE—799 BEACON STREET

ATLANTA OFFICE—4 N. RHODES CENTER

BROWN THERMOMETER CONTROLLERS *and* MINNEAPOLIS HONEYWELL CONTROLS

Sinclair has the Answers to Your LUBRICATION PROBLEMS



FOR EXAMPLE

LILY WHITE OILS reduce friction, heat, and power loss at all spindle speeds . . . come in correct viscosities to cushion worn bolsters and prevent the vibration that affects breaking strength of yarn.

SINCLAIR BEARING GREASE AF 1-2 has lasting stability and perfect penetration . . . insures adequate lubrication of anti-friction bearings with the minimum application that avoids overlubricated bearing troubles.

SPINDLE OILS, if too heavy build up drag and power loss . . . if too light, the bolsters heat, there is oil "fog" and waste of lubricant. Sinclair research and exhaustive tests in actual service have provided new highly efficient oils and greases for complete mill lubrication at economical cost. The Sinclair Textile Flow Chart is a guide to adequate lubrication of all textile equipment. By following it mistakes in application can be avoided and lubricant inventory can be kept low. Have you a copy? No charge.

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE SINCLAIR REFINING COMPANY, 630 FIFTH AVENUE, NEW YORK 20, N. Y.

Looking for a way to

SPEED UP DYEING OPERATIONS?

You can safely switch from dark to light colors in a hurry when your dyeing equipment is made of easy-to-clean ENDURO Stainless Steel.

Talk to your friends who use

Stainless Steel Equipment

● Yes, stainless steel speeds up dyeing operations, because it enables you to switch from one color to another without painstaking scrubbing or boiling . . . it CLEANS LIKE GLASS.

But don't take our word alone!

Talk to your business acquaintances who already are using stainless steel equipment. Let them tell you about the profitable, money-saving advantages of using stainless steel for dyeing, bleaching and other textile processing operations.

Ask them about the various ways in which stainless steel cuts maintenance and replacement costs . . . about the smooth surface which gives lifelong protection against rust, corrosion, rough use and abuse.

See if they don't agree that a simple flushing followed by wiping usually suffices between batches—even between dark and light colors . . . and that textiles dyed in stainless steel equipment are true to color.

Above all remember this: *There is no finer stainless steel than Republic ENDURO*—made by the world's foremost producer of stainless and alloy steels.

Plan now to install ENDURO equipment as soon as it again becomes available. For complete details see your equipment manufacturer or write directly to:

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N.Y.

Republic

ENDURO STAINLESS STEEL

Reg. U. S. Pat. Off.

Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Strip, Plates, Bars, Wire, Pig Iron, Bolts and Nuts, Tubing

What makes a Bearing Good

There are certain folks with Hyatt who won't believe anything they are told about a bearing. They have to *see for themselves!*

That's their job. It starts even before we get the steel from which the bearings are made. Hyatt metallurgists are right in the steel mills to see that specifications are met. It continues through the various steps of precision manufacture until the finished Hyatt Roller Bearing is finally assembled and shipped.

It isn't going to extremes to have so many men and women operators spending all of their time testing, inspecting, checking and rechecking Hyatt Roller Bearings. This sort of painstaking care is one of the things that makes a bearing good.

And it pays! For faultless bearings are essential to faultless operation—whether the application is for the machine that makes a bomber's crankshaft, or for the crankshaft after it's in the bomber.

Hyatt Roller Bearings have to "make good", so they have to be made good! That's why so many are used.

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION

HARRISON, NEW JERSEY

MATTHEW LUCKIESH, D. Sc., D. E. — *Director, Lighting Research Laboratory, General Electric Company, Nela Park, Cleveland. Father of the "Science of Seeing;" famous author and international authority on Light and Color as they relate to vision and seeing.*

COLOR

"THE USE OF COLOR IN THE WORK WORLD IS AUTOMATICALLY RESTRICTED" — Says Dr. Luckiesh, "FOR THE REASON THAT GOOD SEEING CONDITIONS ARE OF PRIMARY IMPORTANCE."

HE ALSO SAYS that "white paint is the outstanding servant of light and lighting throughout the unnatural indoor world of civilization."

When you consider these two quotations seriously as they apply to the use of color in your plant, we know you will want to read all of this booklet by Dr. Luckiesh.

Colored paints, of course, have their place in industry, and have been in the Barreled Sunlight line for years. However the recent "rediscovery" of colored paints and the misplaced enthusiasm so often connected with their present use can be dangerous. Abuse of color can mean loss of plant efficiency and can adversely affect the safety and well being of your employees.

Great progress in the use of light and paint for better seeing conditions, for better employee health and for greater plant efficiency has been made over the past quarter century. Our purpose in offering plant executives this important booklet by Dr. Luckiesh is to safeguard this scientific progress.

Use the coupon to send for your copy NOW.

DATE.....

U. S. GUTTA PERCHA PAINT COMPANY
20-E Dudley Street, Providence, Rhode Island

Please send us without charge or obligation, Dr. Luckiesh's booklet, "Light and Color in the Work-World", also your booklet, "Color for Industry".

NAME.....

TITLE.....

COMPANY.....

ADDRESS.....

CITY..... STATE.....

BARRELED SUNLIGHT

Specialists for Nearly Fifty Years in Maintenance Paints for Industry

RIGHT

or

WRONG

"There are many manufacturers but only one resin for improving fabrics."

Wrong! There are *many* resins used today in treating fabrics, at least as many as there are types of fabrics.

Each resin . . . and each of the multitude of manufacturers' variations of each basic type . . . achieves a different result, fundamentally as well as qualitatively.

It would be far more simple if chemistry had been able to bundle up shrinkage control, water-repellency, and slip-proofing, for example, in one resin product . . . but that millennium isn't here! Some resins do one job superbly well and others only passably; and, of course, some resins don't do any job really well.

How then does a mill converter or finisher, anxious to give his product the benefit of these new-found chemical developments, make a choice?

First, he must decide *what* he wants to do to his material . . . deluster or glaze, impart slip-proofing, shrinkage control, snag-proofing, wear-proofing, or weather-proofing.

And he must find a reliable source of both products and counsel. These new developments in textile chemistry, and the still greater developments to come, require a thoroughgoing knowledge of both textiles and chemistry before they can be enjoyed fully and profitably.

That's why it will pay you to watch Monsanto, from whose textile laboratories many of the most exciting announcements about chemically improved fabrics have been coming these recent months, and from where they will continue to come. MONSANTO CHEMICAL COMPANY, Textile Technical Service, Everett Station, Boston 49, Massachusetts.

MONSANTO CHEMICALS

The Textile

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Wise Investment . . . Needles that knit beautifully clear, even-textured stockings are a wise investment. The high quality of fabrics made with TMW Needles means greater profits for stocking manufacturers. Keep your knitting machines young and effective with TMW Needles . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.

Front Turret of B-29 with Dome Assembly

ARMY E NAVY

THE WAR DECORATIONS OF TEXTILE MACHINE WORKS

Bur. of Ord. Flag and Navy "E"
July 25, 1941

One Star All-Navy "E" Burgee
January 25, 1942

Two Star Army-Navy "E"
July 25, 1942

Three Star Army-Navy "E"
January 25, 1943

Four Star Army-Navy "E"
January 11, 1944

"... until Victory is Won

We of "Textile" are *enlisted for the duration*, building precision instruments for our Armed Forces — on land, on sea, and in the air; directors, computers, aiming devices, gun controls! . . . *When Victory is won* we will begin production on the new high-precision READING Machines, designed to develop a new-high standard of quality and quantity production in the knitting of Full-Fashioned Stockings. . . . Until such time as we can deliver these new machines to you, we will do our utmost to help you keep your present equipment at highest efficiency.

TEXTILE MACHINE WORKS • READING, P...

DRAX-treated fabrics look lovely longer!

Trade-mark Reg. U. S. Pat. Off.

Lovely fabrics that *keep* their loveliness longer . . . what a *plus* in sales that means! Fabrics protected with Johnson's DRAX actually stay fresh, crisp, new-looking longer. They resist dirt and soil . . . shed water . . . withstand handling, too.

DRAX is a new textile finish made by the makers of Johnson's Wax. You need no extra, special equipment. DRAX is non-flammable, stays stable in solution and may be diluted with ordinary tap water. DRAX won't pick up and spot. It is stable at high temperatures, 150° to 212°.

DRAX-protection is easy to maintain! DRAX service is available at laundries and dry cleaners. Later, household DRAX will be available at neighborhood stores for use in the home.

The story of DRAX is being told in announcement panels in Johnson's national advertising in such publications as The Saturday Evening Post, Good Housekeeping, The New Yorker, American Weekly, and many others. *Special DRAX* advertisements in Daily News Record and Women's Wear Daily are telling the DRAX story to buyers, converters, and garment makers.

DRAX tags will identify DRAX-treated fabrics to your customers. Be ready for the demand. Learn about DRAX now.

S. C. JOHNSON & SON, Inc., Fabric Finishes Division, Racine, Wis.
Starrett Lehigh Building, 601 West 26th Street, New York 1.
Or any of our other 18 district offices.

Tune in Fibber McGee & Molly—
Tuesday night—NBC

DRAX

is made by the makers of

JOHNSON'S WAX

Guaranteed by Good Housekeeping
IF DEFECTIVE OR NOT AS ADVERTISED THEREIN

This DRAX tag will be a recognized symbol of plus value

S. C. JOHNSON & SON, Inc.
Dept. TW-55, Racine, Wisconsin

Yes, I'd like to try DRAX. Please send my FREE sample, plus instructions and complete information.

*Name*_____

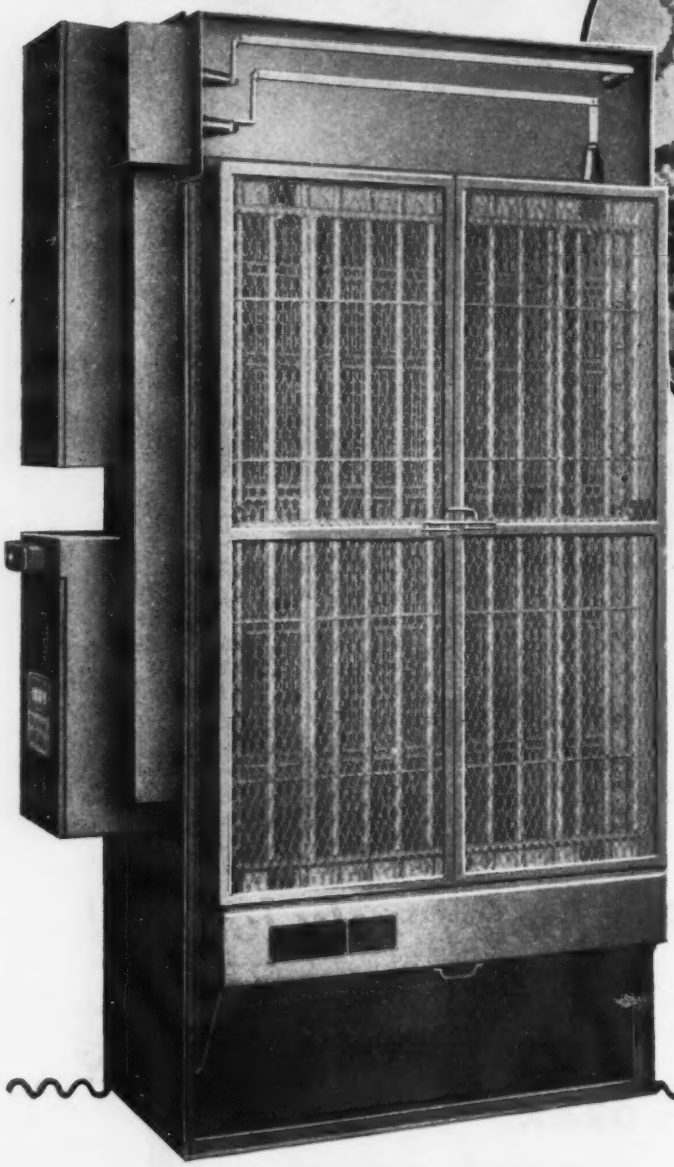
*Firm Name*_____

*Address*_____

*City*_____ *State*_____

Smoke

HAS TO BE MAGNIFIED 40,000 TIMES TO LOOK LIKE THIS:



. . . YET SMOKE AND OTHER FRA TIONAL MICRON-SIZE PARTICLES A REMOVED BY THE ELECTRO-MAT WHICH PROVIDES SUPER-CLEAN AI

Only the new electronic microscopes, will show all t particles of dust that the Electro-Matic Air Filter remove. By first giving dust particles an electrost charge, then attracting them electrically to viscous s faces, the Electro-Matic makes possible a degree cleanliness in plant atmospheres that is unapproach by other means. In addition, this equipment is rugg automatic and self-cleaning (an exclusive AAF devel ment) assuring continuous operation at peak efficie

THE ELECTRO-MATIC IS A "NATURAL" FO TEXTILE PLANTS. The textile industry's standards of product quality and color purity *dema* uniform, uninterrupted supplies of thoroughly clea air. This demand is met in a most efficient, practi and economical way with AAF Electro-Matic Filte The Electro-Matic removes the largest to smallest s particles, which can ruin production. It removes smoke, fumes and vapors from neighboring plants surroundings which can gray a whole day's product Many leaders in the industry are installing this equ ment. Write for Bulletin 250-D or an engineer's

An installation of the Electro-Matic at Bibb Mfg. Co., Macon, Ga.

(Left) the front or intake side of filter. (Right) shows back of unit.

AMERICAN AIR FILTER COMPANY, IN
304 Central Avenue, Louisville 8, Kentuc
In Canada: Darling Bros., Ltd., Montreal, P.

AAF **ELECTRO-MATIC** THE SELF CLEANING ELECTRONIC AIR FILTER

Coatings and sheets made of GEON are finding important applications as seat coverings

Offer many advantages in transportation and theatre fields

As coatings for fabrics, or in the form of unsupported sheets, or as backings for piled fabrics, GEON polyvinyl resins are establishing themselves as important raw materials for seat coverings. The little men in the picture are demonstrating a few of the advantages that seat coverings made of GEON have over conventional materials.

Long wear, of course, is an essential. And products of GEON have unusually high wear resistance. Flame resistance is another important property that GEON offers; no more dangerous cigaret burn-throughs. Coatings and sheets of GEON are good-looking; they may be brilliantly or delicately colored, or embossed in any desired pattern. They're comfortable; are warm and velvety to the touch. They age well; are practically impervious to the oxidizing action of air, and are highly resistant to sunlight. They won't crack or get sticky. Foods, chemicals, dirt have no effect on them. They're washable with ordinary soap and water. These and other properties of GEON may be had in a wide variety of *combinations,* each designed to meet specific service conditions. And, of course, these same properties have made possible hundreds of other applications throughout the entire textile field.

Right now the use of the GEONS is subject to allocation by the War Production Board. Our development staff and laboratory facilities are available to help you work out any problems in connection with essential applications. For more complete information write Dept. HH-3, Chemical Division, The B. F. Goodrich Company, 324 Rose Building, E. Ninth and Prospect, Cleveland 15, Ohio.

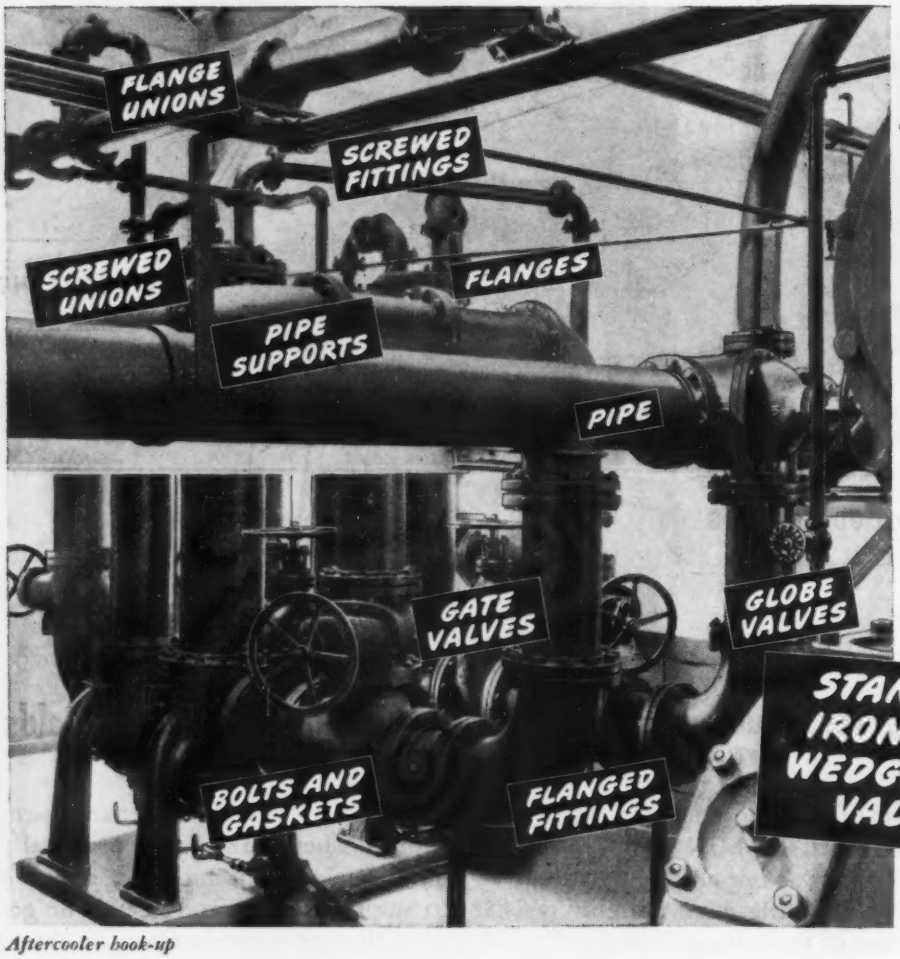
Geon
Polyvinyl Materials

CHEMICAL DIVISION
The B. F. Goodrich Company
324 ROSE BUILDING • CLEVELAND 15, OHIO

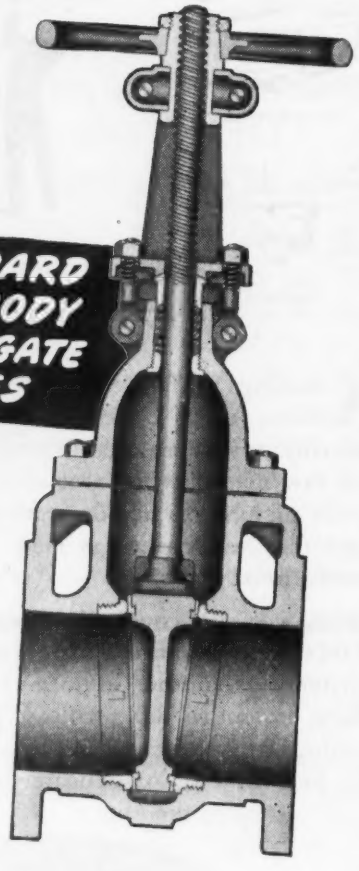
CRANE CAN SUPPLY IT
. . . Whatever You Need in Piping Materials

ONE SOURCE OF SUPPLY
ONE RESPONSIBILITY FOR ALL PARTS
ONE STANDARD OF QUALITY

It's easy to simplify and speed deferred replacement work . . . when you take advantage of Crane *complete* piping materials service. *All* your piping needs are supplied by a single source—your Crane Branch or Wholesaler. You get exactly what you need—you choose from the world's greatest line of piping materials, in brass, iron and steel. Uniform quality in all parts—and one responsibility for them—helps you get the best installations. Crane Co.'s 90 years' experience in meeting piping needs assures your complete satisfaction. In Standard Iron Body Wedge Gate Valves, for example, Crane offers the complete line listed below.



Aftercooler hook-up



SERVICE RECOMMENDATIONS: **Crane Standard Iron Body Wedge Gate Valves** with Brass trim are recommended for steam, water or oil lines; all-iron valves for oil, gas or fluids that corrode brass but not iron. Made in O.S. & Y. and Non-Rising Stem patterns.

Working Pressures

Size of Valve	Screwed or Flanged End Valves		Hub End Valves
	Saturated Steam	Cold Water, Oil or Gas, Non-Shock	Cold Water or Gas Non-Shock
2 to 12 in.	125 pounds	200 pounds	200 pounds
14 and 16 in.	125 pounds	150 pounds	150 pounds
18 to 24 in.	*	150 pounds	150 pounds

*For steam lines larger than 16-in., Crane 150-Pound Cast Steel Gate Valves are recommended. (For sizes under 2-in., use Crane Clamp Gate Valves.)

CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. · *Branches and Wholesalers Serving All Industrial Areas*

CRANE

90 YEARS OF PROGRESS 1855 1945

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

SUSTAINED CONSTRUCTION ACTIVITY

One Step Toward High Level Employment

IN the 34th editorial of this series, it was pointed out that sustained prosperity, based on high level employment, was a major postwar goal accepted by government, management and labor.

That editorial developed the theme that, if the goal were to be approached without undue sacrifice of our essential liberties, we must forego the search for magic panaceas, and follow the harder but more promising course of analyzing step by step, and industry by industry, the measures that might contribute toward the end sought.

This is the first of a number of editorials following such a particularized approach. It will examine the role of the construction industry in forwarding sustained prosperity.

☆ ☆ ☆

The influence of construction upon the general level of economic activity is important but not decisive. The claim is frequently advanced that major fluctuations of the business cycle might be ironed out by a properly devised and timed public works program; but any examination of the relatively modest contribution of construction activities to total national output will demonstrate its extravagance.

In the twenty years from 1920 through 1939, the value of new construction averaged just over 8½% of the gross national product. If we add repair and maintenance expenditures, the total is increased to a little over 12% of the gross product. But approximately two thirds of the construction of this period was privately initiated, and only one third was represented by government construction, federal, state and local combined. To expect that we can level out the peaks and valleys of our whole economy through manipulating the 4% portion that is represented by government construction is to expect a very small tail to wag a very large dog.

In fact, the record of construction activity in the past has been on the side of disequilibrium rather than stabilization. In boom times construction activity has climbed to relatively higher peaks than those reached by the economy as a whole; in depression periods it has fallen to deeper troughs. Aside from the special work relief program of the depression thirties, the performance of public construction in this respect is little better than that of private. New government construction mounted with the general trend of the boom from 1921 to 1929, thereby adding its weight to the inflationary trend.

Instead, then, of expecting the construction industry to stabilize our whole economy—a task clearly beyond its power—it would seem appropriate to ask that it look to the more attainable goal of leveling out its own violent fluctuations. If this can be done, many of the most vexing problems of the construction field and of its sphere of influence will be mitigated, employment will be regularized in one important segment of industry where the past record has been particularly uneven, and one aggravating contribution to general business instability will be removed.

The achievement of these highly important, if limited, aims will require the thoughtful, vigorous, and concerted cooperation of management and labor in the construction industry, of a variety of governmental agencies, and of those who direct the sources of construction credit. Of the many measures that must be woven into an ordered program, it is practicable here to present only the broad outline of those which seem to offer the greatest potential usefulness.

☆ ☆ ☆

1. Stabilization implies the holding of a balance rather than a freezing at a given level. No rigid formula for a most desirable level of construction activity is possible or desirable. However, it may be accepted as a reasonable initial premise, that we could sustain in the future without major distortion something like the 12% ratio of total construction to gross national product that has been approximated in the past. If it is to serve as an useful reference point, such a generalized premise must be subjected to constant testing both nationally and locally. There must be careful and continuous scrutiny for signs of demand saturation, cost inflation, and labor shortages, all danger signals of far greater reliability than any percentage formula.

The first requisite then is the general availability of information along such lines, far more complete and current than has hitherto been at hand. The second is a general will to hold building activity at a level as high as but not higher than we probably can sustain. Once this principle is accepted, the problem becomes one of marshalling all available instrumentalities to forward it.

2. Public construction, although too small to exert a decisive influence upon economic activity as a whole, can

condition construction trends to a major degree. If, in the decade following the war, government construction approximates its 1920 to 1940 average of one third of all construction, its properly timed impact could do much to level out the construction cycle.

To do this most effectively, public construction should be deferred where and when private building is going forward at a satisfactory pace, and should be started when and where private activity shows undue slack. All government construction does not lend itself to such adjustment. But a large portion of it could be held up for the three to five years which, upon past experience, would provide the necessary leeway to counteract the more violent fluctuations in private building.

Such a program presents numerous difficulties both political and administrative. None should be insurmountable, and the results promise to be of sufficient moment to justify the extraordinary effort that would be required to coordinate federal, state and local government programs. Here is an excellent forum for testing whether or not government economic activity can be made to supplement rather than supplant private effort to serve ends upon which all are agreed.

3. Since private building, postwar as in the past, must supply the preponderant share of construction activity and employment, costs will continue to play a dominant role in determining levels of operation. Wartime restrictions have created formidable backlogs of deferred demand for most types of private, and for many of public, construction. Such demand is so great that it almost certainly will provide the impetus for a postwar building boom of several years duration. There is considerable doubt that in the beginning our building trades, dislocated by war and at low ebb, can organize rapidly enough to carry their share of the anticipated general advance.

However, if former patterns hold, building activity, after a lagging start, will soar, costs will mount, and eventually will saturate effective demand with resultant collapse. That, of course, is precisely the sort of a situation we are seeking to avoid. Crucial to this end is the prevention of rising costs or, better still, the reduction of building costs from present swollen levels.

A recent study by technicians of the War Production Board on the outlook for private housing construction illustrates the point. From 1900 to 1940 the number of housing units built in this country closely matched the statistics of new family formation. The former ran considerably ahead of the latter from 1920 to 1929, and fell behind by the same margin in the following decade.

If the market for new houses were to be similarly limited for the period from 1940 through 1949, the effective demand for new housing during the last five years (1945-1949) is estimated at 3,000,000 units. That is after allowing for houses built from 1940 through 1944, and for vacancies, demolitions, and other factors. If, however, prices could be reduced to 1939 levels, the 3,000,000 unit demand is estimated as increasing to more than 7,000,000 units. Since the latter figure is substantially beyond our production capacity for the period, a backlog would be created that would support an effective sustained demand for the subsequent decade (1950-1959) of 1,000,000 units per year, as against half that amount if rents and sales prices mount with increasing incomes.

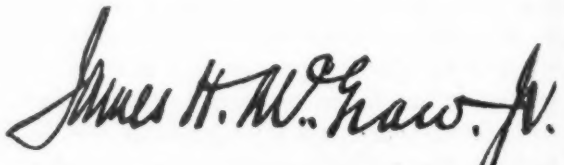
The precise accuracy of such an estimate may well be questioned. There can be no question as to the general validity of the point illustrated. The progressive lowering of construction costs will stimulate demand in this field as it has in others. Building management, labor, and their suppliers and customers stand to gain from such a result. Unnecessary restrictions against the adoption of improved technologies and increased productivity should, therefore, be removed, whether imposed by codes of government, regulations of unions, collusion of managements, or inertia of workers. Unless there are compelling social justifications such restrictions must be judged harmful to the whole economy.

4. Numerous other measures could contribute substantially to increased and increasingly stable construction activities. Space remains only to stress the importance of careful consideration for the use of credit facilities as a means of stabilization. In recent years the establishment of the Federal Housing Administration provided a needed stimulus to mortgage lending in the field of housing. The modern pattern of long-term mortgages, providing for regular amortization as well as interest, should be a steadying factor in periods of liquidation. However, there appear to be further possibilities for using credit facilities as a brake when construction activity threatens to climb beyond a level that can be sustained. If public and private lending agencies could devise sound means for raising mortgage rates, increasing down-payment requirements, shortening amortization periods and basing value appraisals upon normal rather than inflated costs, they might exert a healthy influence against the tendency of the construction bubble to inflate until it bursts.

☆ ☆ ☆

There is no royal road to sustained high level employment. There is not even a single path to assured construction stability—there are many paths, all strait and narrow and all paved with bruising cobbles. This is true for all other major segments of industry.

It is easier to seize upon a magic formula such as monetary control, or deficit spending, or any one of a score of others, than to undertake an intricate task of piecemeal exploration. But only the latter course will lead to prosperity.



President, McGraw-Hill Publishing Co., Inc.

KODA* from the ground up

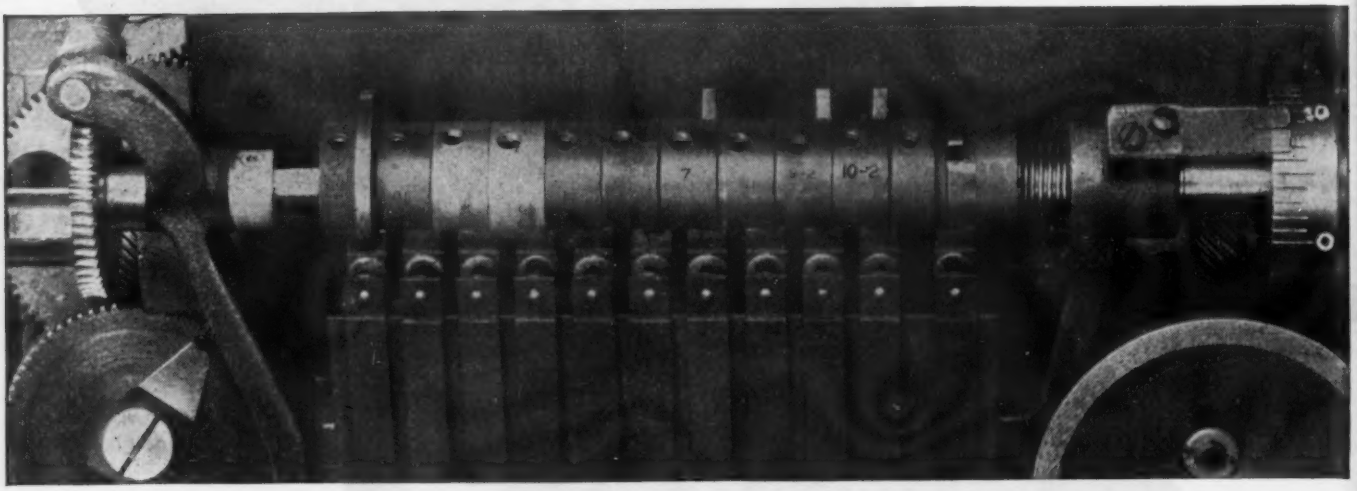
One by one, America's major airlines have singled out crisp white Koda Diagonal for stewardess uniform blouses. Individual service tests have proved this the ideal skyway fabric . . . with impressive records for wearing quality, comfort, superior soil resistance and unconditional launderability.

Koda Diagonal is one hundred per cent Koda, Eastman acetate rayon . . . sound groundwork for any fabric which must meet exceptional service standards . . . foundation for many a current success on manufacturers' lines. For further information about Koda, consult A. M. Tenney Associates, Inc., 10 East 40th Street, New York 16, N. Y., sales representatives for the Tennessee Eastman Corporation, subsidiary of the Eastman Kodak Company.

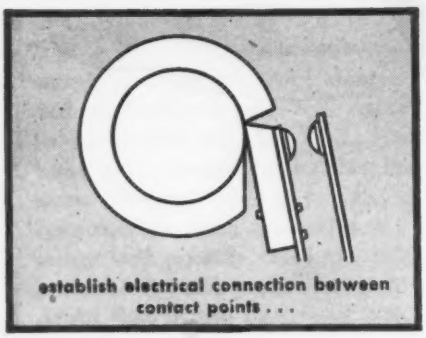
* **EASTMAN ACETATE RAYON**

AS SIMPLE AS A TRAFFIC LIGHT

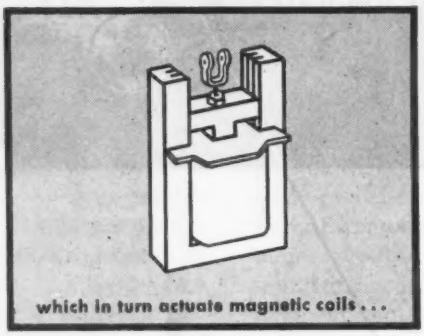
This Is the Simple, Positive Method of Transmitting Motion on the Universal No. 99 Automatic



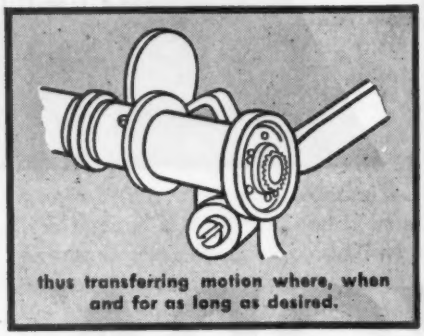
This timer drum slowly rotates the various cams which, in their proper order . . .



establish electrical connection between contact points . . .



which in turn actuate magnetic coils . . .



thus transferring motion where, when and for as long as desired.

What makes the Universal No. 99 *automatic* is a device so simple, so fool-proof, that it is used in hundreds of commonplace applications — household appliances, oil burners, traffic lights, display signs—as well as throughout industry.

Using a simple solenoid (magnetic coil) simplifies design and eliminates fast-wearing mechanical parts.

LOOK FOR ALL THREE
IN CONSIDERING AN AUTOMATIC MACHINE

This use of electrical as well as mechanical controls is one of three features considered essential by many mill men who are familiar with automatic winding. The other two are:

Positive spindle drive, through gears, from a rotating shaft. With slip eliminated, there is no loss in speed between shaft and spindle.

A yarn traversing method—the unique Universal Traverse Wheel—producing round, parallel-sided, ridge-less bobbins.

Thus, with the Universal Automatic, you get—from these three features—lowest maintenance, maximum production, quality winding.

Other Important Universal Features. "Layer-lock" wind, reducing tendency to "shell off" in the shuttle. Centralizing bobbin driver. Automatic release of tension at start of winding. Magazine creeling. 9½" maximum traverse, 1½" maximum diameter.

The UNIVERSAL AUTOMATIC has proved successful over a period of years winding rayon yarns for the loom. Orders for after-the-war delivery are now being accepted for winding all fibres.

23.4.17

UNIVERSAL AUTOMATIC
High Speed Bobbin Winding Machine

UNIVERSAL WINDING COMPANY

. . . Putting Electricity to Work to Improve Your Bobbin Winding

LEESONA

PROVIDENCE · BOSTON · PHILADELPHIA · UTICA · CHARLOTTE · ATLANTA

MATERIALS HANDLING

Is Vital in All Departments

By **HAROLD E. REED,** *Assistant Editor, TEXTILE WORLD*

MECHANICAL HANDLING of materials involves two simple motions; namely, horizontal motion, vertical motion, or a combination of both. When considering the possibilities offered by materials-handling equipment in any textile mill, a study of the various types of motions involved in each handling operation must be undertaken.

ANALYSIS OF MOTIONS. First, a chart should be prepared listing all different types of materials handled in a mill and the various motions involved in the moving of them. Such a chart is shown on this page. A convenient method of indicating motion is by means of arrows. A ↔ arrow indicates horizontal motion, a ↕ arrow indicates vertical motion, and a ⮍ indicates a motion combining both horizontal and vertical movements.

After the chart has been completed, the types of motions involved, the bulk of the material, and the weight must be considered. These factors must be correlated with the types of handling equipment available and with the time involved in handling to determine the equipment best suited for the operation. Sometimes an operation may best be performed by hand labor, while on other occasions power-operated equipment may save on labor and reduce the time that the materials stand idle waiting for movement to the next processing operation.

Materials which require only a horizontal handling motion may best be handled by materials-handling equipment that is capable of horizontal motion; but, in many instances it may be best to handle the material on equipment that combines a number of motions. This may be true because the equipment which combines motions can be used for practically all other operations about the mill, and make it unnecessary to purchase equipment that can not be operated continually.

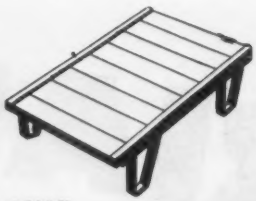
Materials, as found in various forms about textile mills, are listed in that chart on page 102. Suggested types of handling equipment are also listed. It is possible that a mill will find additional types of handling equipment suitable for its specialized purposes. If materials-handling equipment is to be used most efficiently, a particular study must be made by each mill of its own specialized conditions.

MOTIONS INVOLVED IN HANDLING MATERIALS

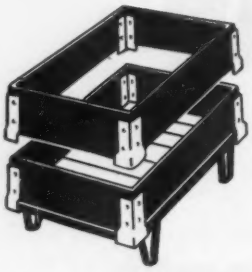
MATERIALS	MOTIONS
Bales	↔
Bales *(if tiered)*	⮍
Card sliver	↔
Loom beams	⮍
Section beams	⮍

BASIC EQUIPMENT FOR HANDLIN

PALLET



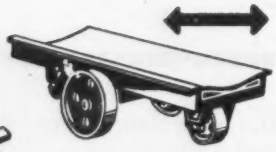
SKID



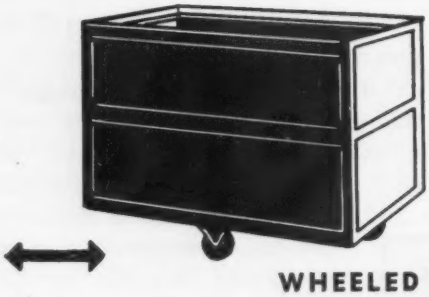
BIN

HAND TRUCK

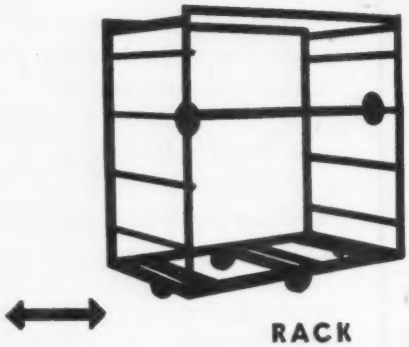
HAND LIFT TRUCK



DOLLY



WHEELED TRUCK



RACK

PALLETS, SKIDS, AND BINS. Use of lift trucks requires that a mill have a stock of pallets, skids, and bins if materials are to be handled most efficiently. Pallets are used for piling or stacking after which the forks of the lift truck are slipped into the pallet and the entire load is lifted and carried away. It is possible to tier two, three, and even more pallets for storage in the warehouse. Skids are commonly used about mills and lift trucks may be used to handle some types. Hand trucks can be used for moving both pallets and skids. One type of bin is made by adding section frames to skid platform to eliminate the necessity of having on hand a supply of boxes.

HAND TRUCKS. Simplest form of equipment for handling of materials is the hand truck, used for carrying bales and bags, and for many other purposes. Often the hand truck has attached to it a number of braces so as to permit it to handle beams, cloth rolls, and many bulky items. Mills which require a crew of laborers to push hand trucks may employ to advantage a power driven forked lift truck with which one operator is often able to handle all of the work formerly accomplished by a crew of laborers.

HAND LIFT TRUCKS. Those mills that do not require a power-driven truck can use a hand-operated lift truck to advantage. This truck is pulled by hand and may be inserted under skids and pallet to lift them and tow them. The handle operates a hydraulic lift which raises the skid or pallet from the floor. Some of these hand lift trucks, while incorporating the hand-operated hydraulic lift, contain batteries which operate an electric motor to provide forward and backword traction.

DOLLIES. Heavy loom beams and section beams may be pushed about the mill on dollies. Their chief use is for handling loom beams and rolls of cloth. Sometimes dollies are so constructed as to incorporate a hydraulic lift to assist in raising the loom beam to position at the loom.

WHEELED TRUCKS. One of the most common types of materials-handling units to be found in a textile mill is the wheeled truck. This consists of a box mounted on wheels or casters. It is used for handling bobbins, spools, and roving; for carrying waste, for handling piece goods, and for practically all purposes about the mill. Aside from this type of truck, the common platform truck is also found in the mill. This truck, consisting of a platform mounted on wheels, is frequently used about finishing plants for handling piece goods. When lift trucks are employed, box and platform trucks can be replaced by skids and bins.

RACKS. Racks are a specialized item found in the mill. Each mill has its own idea as to the rack best suited for its conditions. Essentially, they are frames constructed to hold quill trays, laps, jack spools, skeins, and other long and bulky items which are not excessive in weight. Rack shape is determined by the material to be accommodated.

Those mounted on wheels may be towed, while those on skids may be carried.

FORKED LIFT TRUCKS. This piece of materials handling equipment is of fairly recent origin. A self-powered truck, operated by a gasoline motor or by batteries, has attached to the front of it a set of forks or prongs with which it can pick up various loads. Many of these trucks are capable of raising the forks to a height of from 48 to 72 in., so as to stack and pile materials. Frequently other types of lifting attachment may be fixed in place of the forks to permit the handling of rolls of cloth and materials in other forms. These trucks, on occasions, double as tow tractors and drag along loaded wheeled trucks.

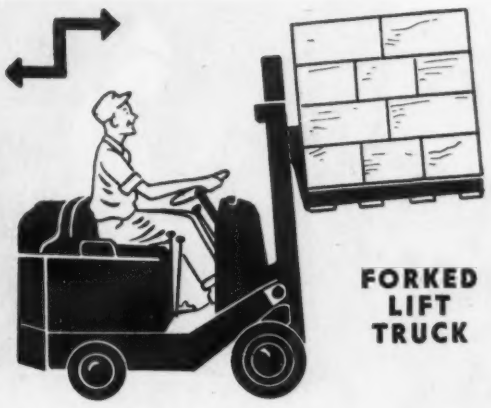
STACKERS. The forked lift truck will handle most stacking or piling operations normally required in the warehouse. Mills having large warehouses or requiring the storage of large amounts of raw materials can use a stacker to advantage. Stackers permit tiering to heights greater than those allowed by lift trucks. Special stackers have been developed for the textile industry to place in racks and to remove from racks heavy section beams and loom beams.

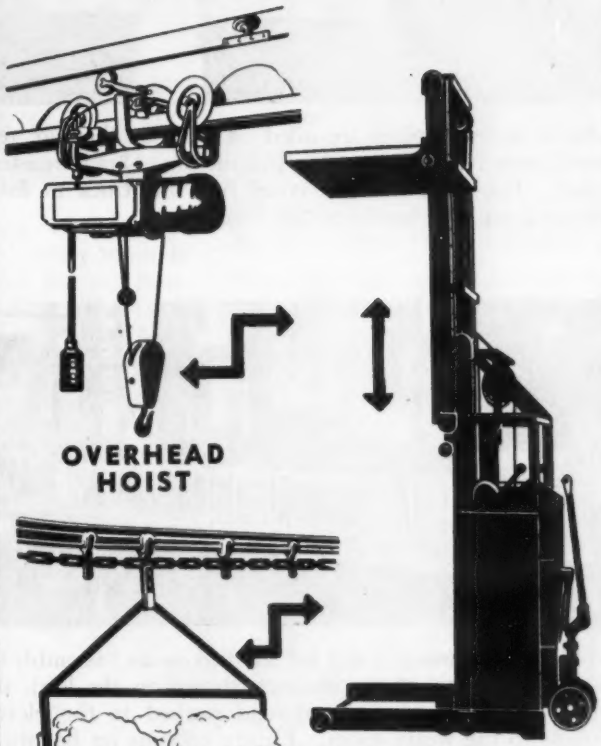
OVERHEAD HOISTS. Extensive use is made of overhead hoists operating on monorails to carry heavy section beams and loom beams, especially at the slasher. Then, some mills have provided carriages and trucks for these hoists to carry from one mill building to another, as well as to different rooms within the plant. Operation of these overhead hoists on such occasions is entirely automatic. When reaching the end of the run, they trip a switch and stop.

OVERHEAD CHAIN CONVEYORS. This type of equipment is best suited for installation as a complete unit covering every room in the mill. Under such conditions, it is possible to carry practically any textile material in any form as long as it will fit into a basket, on a tray, or in a rack. The material may be placed on the conveyor at any point in the mill and removed at any point.

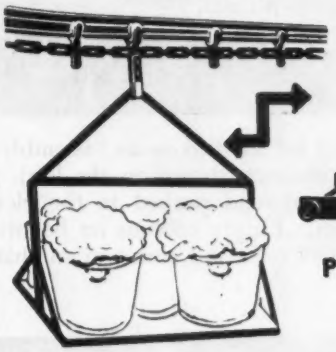
CONVEYORS. Numerous different types of conveyors are found in textile mills. For example, one of the simplest type consists of a series of rollers over which the material to be handled is pushed by hand or pulled by gravity. Another simple one is the common belt conveyor. An endless canvas belt supported by rollers is positively driven and carries the material in question.

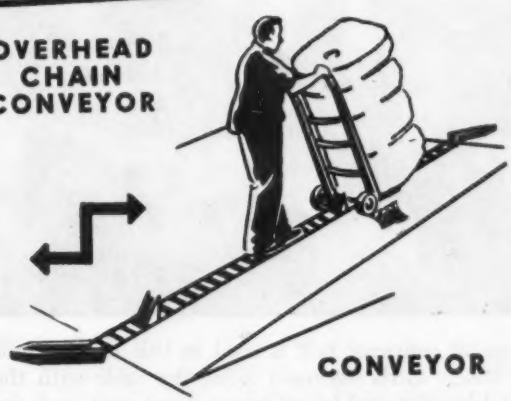
A chain-belt conveyor offers great possibilities for solving many difficult handling problems. For example, lugs may be attached to the chain belt at definite intervals, and these lugs may contact some part of a hand truck or a wheeled truck so as to pull it up a slope. Often buckets are attached to chain belts for handling bulk goods. With such a system, goods may be moved from one floor to another in a mill. Trays also are sometimes attached to the chain belts for handling other materials.


FORKED LIFT TRUCK

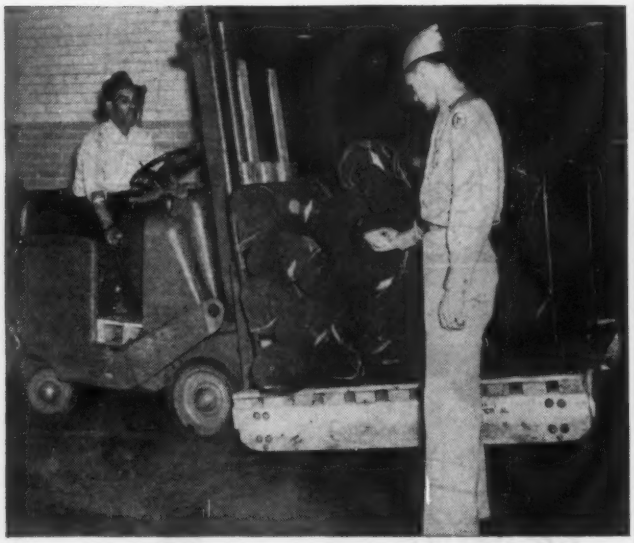

OVERHEAD HOIST

POWER-OPERATED STACKER


OVERHEAD CHAIN CONVEYOR

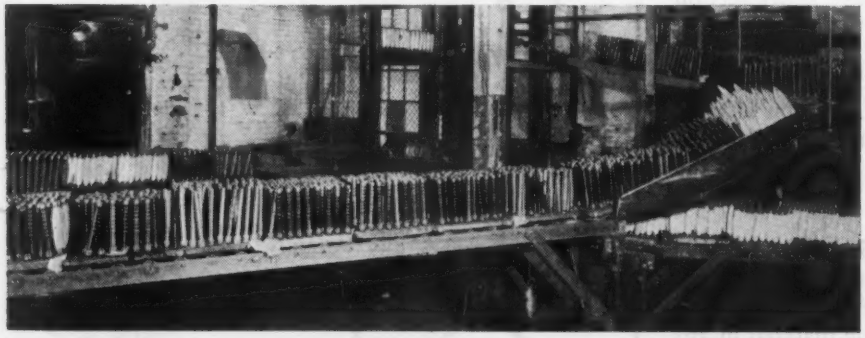

CONVEYOR

PRACTICAL APPLICATIONS IN MILLS

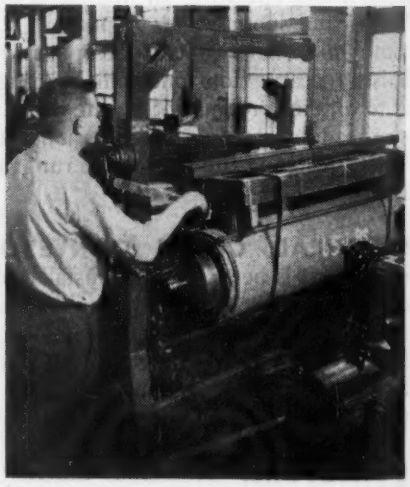


Bolts of Army woolens are piled on skids as they are removed from freight cars at the Philadelphia Quartermaster Depot. The skids are then raised by a lift truck to flat-bottomed carts for towing to the warehouse.

Aside from permitting women to handle warehousing of cloth rolls weighing 580 lb. and heavy bales and boxes, a 25% increase in warehouse capacity was obtained. A girl can do the work of a gang of hand truckers.



Bobbins in this worsted mill are handled on an "assembly-line" basis. After the twist has been set at the steamer (shown on the left), the bobbin boards are placed on roll-type conveyors, and pushed to the elevator which takes the bobbins to the weave room. Empty bobbins on boards are sent down in the elevator and slide by gravity on a roll conveyor to that section of the room where they are stripped.

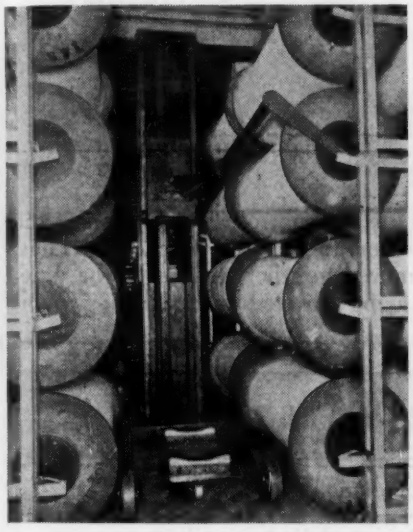


This small hand-operated crane is designed to fit in narrow loom alleys and lower into position warp beams, often complete with the ends drawn in. Mounted on four swivel casters, this crane may be operated by one man.

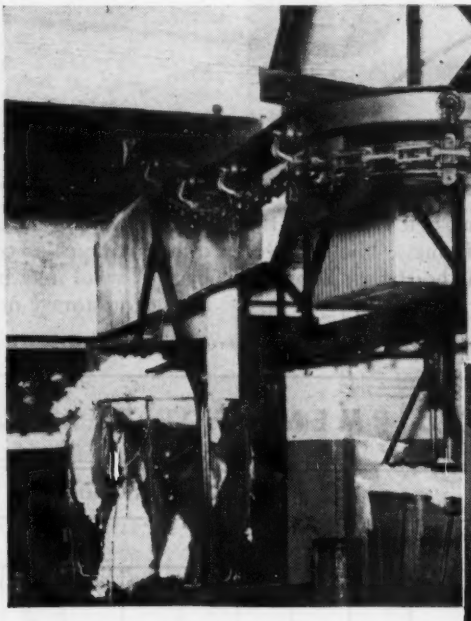
A small conveyor belt is used in this hosiery mill to assist with the packaging of hose. Girls stationed along the table with the movable belt inspect, stamp the hose size and brand name, band, and pack, as on an assembly line.

PHOTOGRAPHS used in the materials handling section were furnished by the following companies:
Overhead conveyor, Lamson Corp.; hand-operated crane and side loading stacker, Lewis-Shepard Products, Inc.; overhead hoist at dye jig and double hoist for cloth rolls, Harnischfeger Corp.; lift truck stacking bales and handling bolts of Army woolens, Towmotor Corp.; air hoist and link belt for bags of wool, photo-electric cells operate conveyor, and conveyor in hosiery mill, Link-Belt Co.

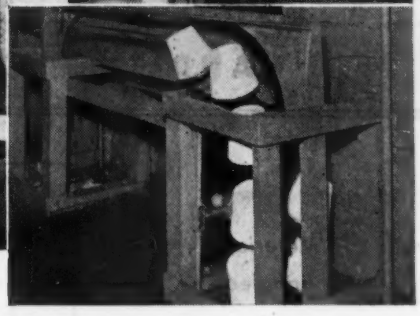
UTILIZING HANDLING EQUIPMENT



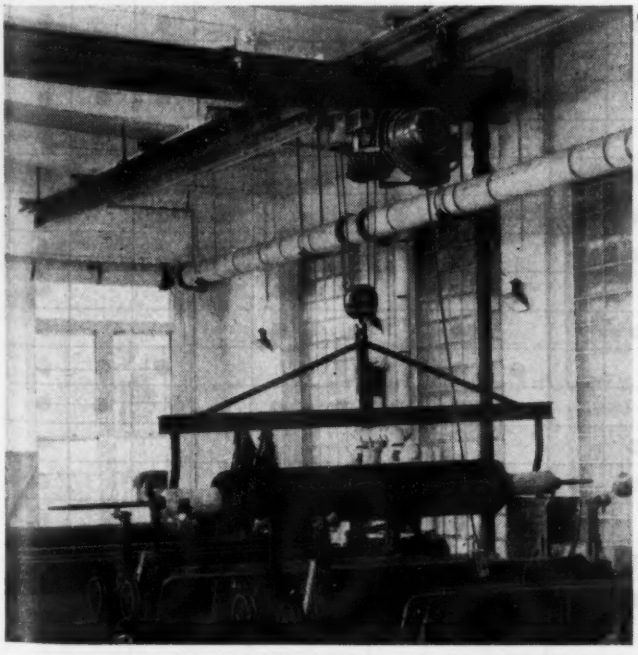
This side-loading stacker will place in or remove beams from storage racks mechanically and requires only one operator. It is stated that the initial cost of such a stacker is less than half that of over-head handling equipment, that it permits greater storage per foot of area, that other beams need not be touched when adding to or removing beams, and that the operator at no time is under the beam being handled.



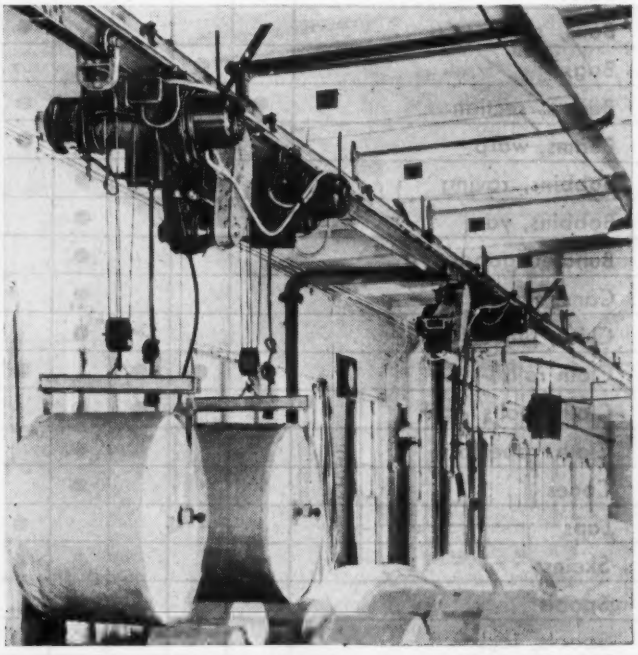
An overhead conveyor of this type usually passes through every room in the mill and runs from the top floor, to the basement, and back. Trays and cars of all types may be attached to the overhead traveling chain to carry almost any type of material to the different processing operations.



The single chain conveyor in this knitting mill supplies the knitting room with a constant source of yarn from the floor below. Hooks on both sides of the chain make this conveyor "double duty."

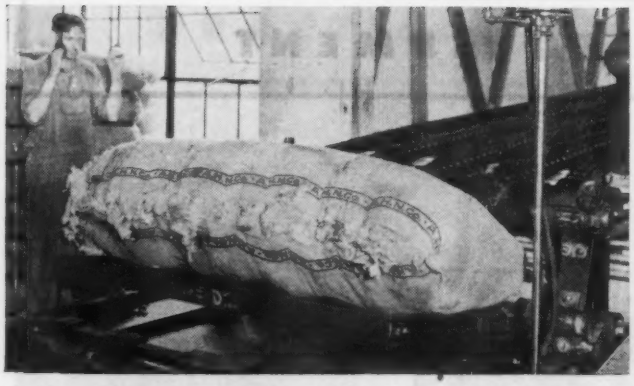


A double hoist arrangement equipped with a power drive for lifting and conveying two cloth rolls carries them from the cloth room to another room where the sheeting is torn to length. The traveling hoist in this mill must run up an incline to reach the tearing room.



The overhead hoist in this mill is used to deliver and remove rolls of cloth to and from the dye jigs. Usually a hoist of one-ton capacity is sufficient for such service. Overhead track is so constructed that the hoist will serve all jigs in the room.

(Continued on next page)



At the railroad end of this 146-ft. link-belt conveyor, the operator places the bale of wool on a frame. The operator then pulls a cord which operates an air hoist that flops the bale onto the conveyor.

Photoelectric cells are used to control the operation of the different types of conveyors in this mill warehouse. Thus, bags of wool may be moved to other sections of the warehouse for storage or may be delivered to the opening room.

HANDLING EQUIPMENT FOR TEXTILE MATERIALS

Materials handled in textile mills	Materials Handling Equipment														
	Hand Operated					Power Operated (Labor-saving)									
	Dollies	Hand trucks	Hand lift trucks	Wheeled trucks	Racks	Bins	Chain belts, bucket	Chain conveyors	Chain conveyors, overhead	Conveyors, belts or roller	Overhead hoists	Pallets	Pneumatic pipes	Racks	Stackers	Trucks, forked lift
Bales		●	●					●	●	●	●				●	●
Balls, sliver				●	●	●	●		●	●				●		●
Bags		●	●					●	●	●	●				●	●
Beams, section	●		●		●				●		●			●	●	●
Beams, warp	●		●		●				●		●			●	●	●
Bobbins, roving				●		●	●		●	●						●
Bobbins, yarn				●		●	●		●	●						●
Bundled goods				●		●	●		●	●						●
Cans, sliver				●					●			●				●
Cloth, piece form				●		●			●			●				●
Cloth rolls	●	●	●		●			●	●		●			●	●	●
Cloth, bolts			●	●					●	●	●	●			●	●
Cloth, rope form				●		●										●
Cones				●		●	●		●	●		●				●
Laps					●			●	●		●			●		●
Skeins				●	●	●	●	●	●	●		●				●
Spools				●		●	●	●	●	●				●		●
Spools, jack					●				●		●	●		●		●
Stockings and socks				●		●	●		●	●					●	●
Raw stock				●		●	●		●	●	●		●			●
Raw dyed stock				●		●	●		●	●	●		●			●
Waste, soft and hard				●		●	●		●	●	●		●			●

NEW PROTEIN FIBERS Made From Many Materials

HIGHLIGHTS: Strongest produced is from chicken feathers. British publicize data on Ardil made from peanuts. Fibers possible from any protein. Egg-albumin multi-filament yarn made experimentally.

PRACTICALLY ANY KNOWN PROTEIN can be used to form textile fibers, and fibers have been made from many proteins both vegetable and animal. Examples are chicken feathers, egg albumin, fish, hides, soy beans, peanuts, casein (milk), and many others.

Fibers are being produced commercially from casein (Aralac, U. S.; and Lanital, Italy); a pilot plant is producing fiber from soy beans (Drackett); and pilot plants are expected both here and in England to produce a wool-like protein fiber from peanuts (U. S. Dept. of Agriculture and the British Imperial Chemical Industries).

Considerable publicity has recently been given a British peanut-protein fiber which has been named Ardil. Although samples are not available, some data concerning this fiber are given in Table I.

Experimental samples of Ardil have been made up into yarns and fabrics, principally in blends with wool, although some fabrics were made with 100% Ardil. In many respects, results paralleled those experienced with Aralac. Principal use, if the fiber is produced commercially, seems to be in blends. It is claimed that the fiber will be cheaper than wool and that it can be—and, in fact, has been—blended with cotton, viscose, and silk. It can be processed on conventional worsted, woolen, cotton, and spun-silk equipment.

OTHER PROTEIN FIBERS. It has been known for some time that fibers from chicken-feather keratin have been produced experimentally by a unit of the Department of Agriculture and at least one other laboratory. "Fabrics from chicken feathers" were privately exhibited in New York the latter part of last year. The interest in this raw material is due to its cheapness and, more particularly, because fiber has been produced experimentally which exceeds in strength any of the fibers now being manufactured from other proteins. Strength of up to 80,000 lb. per sq. in. has been achieved experimentally which compares with approximately 60,000 lb. for cotton (range is from 40,000 lb. to 135,000) and around 20,000 lb. for wool. Commercially manufactured casein fibers produced to date have all been much weaker than wool.

To achieve greater strength, the fibers after being spun are regenerated and then stretched several hundred percent in live steam.

Polyfilament threads have been spun from both technical egg whites and from chicken-feather keratin; with the former, 100-filament threads have been achieved.

So far, principal attention has been upon the problems of producing fibers with characteristics which might make them commercially useful. The start of pilot plants to process the new raw material and produce fiber will logically precede any extensive testing of spinning, weaving, and dyeing properties, as well as the resulting fabric.

WOOL-DYEING RAYON. In addition to the foregoing "artificial wools," mention should be made of a wool-dyeing cellulose rayon which is being produced commerciallly by Courtaulds under the trade-marked name Rayolanda. It is available for spinning on cotton, woolen, worsted, spun silk, and flax systems. Table II lists some of its properties.

Table I. Properties of Ardil

Tensile strength, 10 Kg./m.m.
Elongation at break, 50 to 100%.
Fiber is mothproof.
Fiber will felt by "welding."
Fabric has same thermal insulation as wool.
Color is cream but can be bleached.
Fiber has crimp resulting from shrinkage.
Fiber and fabric are more crease resisting than cellulosic fibers.
Physical structure differs from wool or silk.
Same dyes used as for other protein fibers (also direct cotton dyes).
Abrasion tests show Ardil inferior to wool.
Water absorption slightly greater than wool.
Ardil does not shrink itself but does not prevent wool from shinking when mixed with it.

Table II. Rayolanda

Physical properties

Fibers produced: 1.5 den., 1 7-16 in.
3.0 den., 2½ in.
4.5 den., 4 in.
4.5 den., 6 in.
Luster, dull.
Water absorption, 50%.

Manufacturing Data

Intended as blend with wool, although it can be spun in 100% form.
No opening before carding; no oiling.
In spinning, increase t.p.i. 5%.
In weaving, reed 3 to 8% narrower than all wool.
In dyeing, allow for greater affinity for wool dyes at low temperatures.

"GET MORE WOOL TOP!" Says Gen. Gregory

HIGHLIGHTS: Army Service Forces team goes into action in Northeast with cooperation of manufacturers and employees to meet Quartermaster General's most acute problem. Machine parts flown from France to New England mills. Battle veterans talk to plant workers. Wounded soldiers stress importance and urgency of top making to insure adequate clothing for fighting forces in campaigns ahead.

Capt. T. E. Bogardus of Merrill's Marauders, left, explains wool combing to Sergeants Doyle, Pinkham, and Lavoix. Doyle and Pinkham were rescued by U. S. Rangers from Cabanutuan prison, and Lavoix was a prisoner of the Nazis.

By HOWARD S. KNOWLTON
New England Editor, TEXTILE WORLD

"GET MORE WOOL TOP!" When the Office of the Quartermaster General found that a critical shortage of wool battle dress was imminent unless production of wool top could be increased a million pounds weekly, that was the order issued.

The Army needs 160 million pounds of wool top by Dec. 31, 1945. At the present rate of production, a 50 million pound deficit will result. This deficit would make 40 million pairs socks, 10 million undershirts, 10 million pairs drawers, and uniforms for 5 million enlisted men. Since the heart of the wool-combing industry is located in New England, a specially selected group of 15 officers was sent into the area headed by Maj. James P. Walsh. The unit was designated the "Army Service Forces Wool-Top Special-Project Team." Headquarters were at the 1st Service Command, Labor Branch, 808 Commonwealth Avenue, Boston. Paralleling his technique used so successfully in the South (TEXTILE WORLD, March, 1945, page 102) to increase production of cotton duck, shelter-tent twill, and other war material, Major Walsh went to work.

A quick survey was made by field officers to determine the base capacity of wool-combing mills and to determine just what problems existed. A list was compiled of wool-combing mills which could use assistance in recruiting additional manpower, combating absenteeism, and promoting in-plant morale.

Naturally, each mill had a different series of problems. Field officers located in Lowell, Lawrence, Holyoke-Springfield, Woonsocket, Providence, and the New York area familiarized themselves with community as well as mill-production conditions. Each officer had to know the people in his locality. In Woonsocket, for example, the majority of wool-top workers are of French-Canadian extraction. Their customs differ from those in other areas.

Field officers work impartially with the War Manpower Commission, the United States Employment Service, the War Production Board, mill management, and labor.

One of the soldiers from Fort Devens, now working at the Barre Wool Combing Company, Ltd., South Barre, Mass.

PARTS FLOWN FROM FRANCE. problems of mill management and labor interest these field officers, who can often approach an obstacle with a fresh outlook. In one area, machines have been idle for years because essential parts were available only in German-occupied France. The field officer reported this to wool-top-team headquarters in Boston, together with the information that the parts were available in France; but priority had to be obtained to get them into the country. Immediate arrangements were made by the War Department to procure the parts (weighing 848 pounds total) and to fly them to the mill area. This equipment is enroute as this article is being written; and when the machines are put into operation, 100 more workers can be employed and production increased materially.

In another area, the field officer suggested that combing and carding machinery be kept in operation during the noon hour. This was done by staggering the lunch hour so that one woman could tend two machines while her partner was at lunch. Production was materially increased. Another field officer learned that a mill in his

area did not have Sunday-night shifts. The mill was closed down and did not start operation until Monday morning. This officer suggested additional shifts and assisted in securing additional labor.

Since the Army needs wool top and must have it if peak combat efficiency is to be maintained, the field officer is often in a position to suggest changes and to secure assistance that might be looked upon doubtfully by other agencies. Sometimes a change in specifications can be arranged which will materially boost production and not impair the usefulness of the product. Field officers offer this sort of assistance also.

ARMY PERSONNEL. The use of soldiers' after-duty-hours is also boosting wool-top production. Enlisted men, unskilled in textile work of this kind, are recruited from Fort Devens, Mass. Buses bring the men to the mills in Lowell and South Barre. To save time, box lunches are given to the men to eat enroute and in South Barre. Management supplies box lunches for the return to Devans. The men work during their week-ends and at night after regular duty.

Each field officer is available to mill management to assist in every way to promote wool-top production. In Lawrence, Mass., for example, the entire community was made wool-top conscious. The field officer arranged a community conference which was attended by leaders of mill management, labor, the Army, the local Chamber of Commerce, and representatives of the press, radio, and local motion picture theaters.

This was an appeal to the patriotism of Lawrence. As a result, the program received community cooperation. Twelve theaters featured a special trailer which carried the appeal to the theater-going public of Lawrence. It was told that 700 additional workers were needed in the wool-top mills. A telegram, sent to the men and women of the wool-combing industry by Maj. Gen. E. B. Gregory, the Quartermaster General, was quoted. The general stated that no cut-back was planned in wool top after V-E Day and that, instead, 2,235 additional workers would be necessary to meet Army minimum requirements. He also urged every man and woman in industry to produce more wool top so that the combat efficiency of our soldiers would not be seriously impaired.

WOUNDED VETERANS SPEAK. The field officer determines what the labor problem is and then seeks the assistance of local agencies, such as the United States Employment Office of the War Manpower Commission. He works with the plant on absenteeism. An effective aid in recruiting manpower for wool-top mills is the use of wounded veterans from Cushing General Hospital, Framingham, Mass. These veterans, all New England men, volunteer for the job. Two or three men, usually headed by a sergeant who has had some experience in interviewing or personnel work, are assigned to each area. They interview prospective men and women and are able to impress the worker with the importance of his job to the war effort. They have developed a labor-recruiting technic which is hard to beat.

Sgt. Daniel J. Scanlon of Medford, Mass., who works in the Providence area, does the job simply and effectively. He was wounded near St. Lo, France, while serving with the 10th Armored Division. Recently an Army motion-picture film showing actual combat near St. Lo was shown to USES workers in Providence. At the conclusion of the film, the field officer made a short talk, pointing out that wool top, used to make the combat clothing the men wore, probably was combed and carded in the Providence area, and that millions of pounds more were wanted. He then introduced Sergeant Scanlon, stating that the sergeant had been wounded in the bat-

ASF WOOL-TOP SPECIAL-PROJECT TEAM

Left to right, front row: 2d Lt. Alexander Grusha Lowell; 2d Lt. Seth Jacobson, New York; 2d Lt. Melville Taylor, Woonsocket; 2d. Lt. Thomas Page, Lowell; 2d Lt. Stanley Stone, Holyoke; 2d Lt. Irving Small, Lawrence; rear row; 2d Lt. Arnold Marks, Boston; 2d Lt. Charles Stiles, Boston; Capt. Elliott Daxe, Industrial Service Division; Maj. James P. Walsh, Team Chief; Capt. T. E. Bogardus, Industrial Service Division; 2d Lt. Lee Davis, Lawrence; and 1st Lt. Charles Kirk, Lowell.

Lt. Gen. Brehon Somervell asks postponement of vacations

To All Wool-Top Manufacturers and Labor Organizations:

"It has been called to my attention that some of the manufacturers and labor organizations in the woolen and worsted industry are now planning to announce a full week's vacation in the beginning of July. I am informed that notices of such action are already being posted in the plants.

"As you know, the production of wool top is now the most critical item of the Army Quartermaster. It is the chief bottleneck in the production of many types of essential military clothing. There will be a continuing need to increase the production of wool top even after V-E Day.

"The wool top which is manufactured in July is made into clothing which will be worn by our troops next winter. I earnestly recommend that present plans for a July vacation be reconsidered with a view to postponing such action until Labor Day when a decline in wool top production will no longer affect next winter's clothing output.

"In view of the high urgency of all woolen and worsted fabrics needed for military use, it is my suggestion that this postponement apply as well to all departments of the mills. Our millions of men overseas need the constant support of the millions of men and women in wool industries until final victory is won."

BREHON SOMERVELL, Lieutenant General, USA, Commanding.

tle just shown on the movie screen.

"I'm here to ask you to do everything you possibly can to boost wool-top production," he told the audience of about 100 USES personnel members and prospective workers. "I want to continue to do all I can to help my buddies over there." This short statement was most impressive as the sergeant had been shot in the leg and must use a cane to keep erect.

In combating absenteeism, the combat veterans secure a list from mills in the area. They make personal visits to each home, talk to the men and women, and impress them with the importance of their work and how desperately a man in the foxhole needs wool clothing and how much added effort is appreciated by service men.

VETERANS MEET WORKERS. Perhaps as important as labor recruiting and chasing absentees is the work done by the ASF wool-top special-project team in boosting the morale of the men and women mill workers. It was discovered that few workers realized how important wool combing was to the war effort. A man in a shipyard can see the might of a cruiser or aircraft carrier he is helping to construct. "Rosie the Riveter" can watch her bomber take shape. But "Wilma the Wool-Top Worker" has been doing the same sort of work day after day and all she sees are the long ropes of soft white wool, which seem to have nothing whatever to do with the war effort. The atmosphere and tempo never change, in peace or at war. The wool-top worker's neighbor may work in a munitions plant and not only make more money, but also there is that feeling of "My bomb did that!" every time a bomb is dropped on Tokyo. But what is so spectacular about wool top? Wilma fails to realize that wool top went into the flight suits that kept the pilot, the navigator, and the crew warm and efficiently fit, so that the bombing to Tokyo could be a success. Thus, throughout New England today, small groups of combat-wounded veterans are slowly walking through wool-top mills—pointing out as they go the vital importance of wool top to the war effort.

They stop and talk to workers. They ask women at the combs and cards how the work is done. Often they ask if they can try it. They answer questions about overseas life, and they tell how much their buddies need warm, worsted trousers and wool socks. Sometimes they have served with the sons, husbands, or relatives of the workers. They make friends at each stop.

One particular morale team is that headed by Capt. T. E. Bogardus. The captain, who has returned after 25 months overseas, was a member of Merrill's Marauders. Members of his team include Sergeants Pinkham and Doyle, rescued in January from Cabanutuan prison in the Philippines by the U. S. Rangers. Another member of the team (Sergeant Lavoix) was repatriated from a German prison camp. The men from Cabanutuan tell of their treatment by the Japs. Sergeant Pinkham for example, veteran of the "March of Death" dropped from 130 lb. to 70 lb. Sergeant Doyle was on Corregidor when it fell. Sergeant Lavoix, an air force gunner, was shot down over Hamburg, Germany, in June, 1943. While a prisoner of the Nazis, he tried to escape and was shot in the attempt. He returned in September and has been convalescing at Cushing General Hospital, Framingham. He still uses crutches.

The wool-top team also uses a mobile display of battle clothing. This unit, headed by Capt. Elliott Daxe, Army Air Corps navigator, tours mill areas. Combat-wounded veterans also accompany Capt. Daxe and explain to workers how much the Army needs wool top. Another effective unit is a huge truck and trailer recruiting unit which tours designated areas. A public-address system in the trailer makes announcements many times daily urging men and women to take either full- or part-time jobs in wool-top mills.

Every means is being used to get the wool top that the Army needs. The field officer knows that it is his job to get the mills in his area operating at maximum capacity. Everything that can be done toward this end is done.

LETTER TO WOOL-TOP INDUSTRY

The growing shortage in deliveries of finer grades of wool top has for some time been a matter of major concern to the Office of The Quartermaster General. Although the current drive to stimulate production and recruit workers for the industry has resulted in slightly increased output, the situation as of the moments continues serious because of its implications for the war's next stage. Not only is no cutback planned in wool top after cessation of hostilities in Europe, but unless there is a sharp upswing in production now, the combat efficiency of our soldiers in future campaigns may be dangerously reduced.

Your firm is an important wool top source. Every increase in your output will cut down the projected 50,000,000 pound shortage that now confronts us. Any decrease in your plant's efficiency will aggravate the situation and intensify its grave consequences. Failure to achieve our production goal is inevitable unless every plant in the industry delivers its maximum.

You are urgently asked to bend every effort to increase your deliveries. The case of wool top has reached the point where everyone, directly or indirectly involved, must go the limit in doing his part.

Sincerely your, E. B. GREGORY,
Major General, The Quartermaster General

LETTER TO WOOL-TOP LABOR

The wool top shortage is now the Army Quartermaster's most acute problem. You are urgently asked to aid in every way possible the present effort to increase production of this basic essential. If our troops overseas are to continue properly and adequately clothed, able to operate at peak combat efficiency, that effort requires the full cooperation of everyone concerned with wool-top production.

No cutbacks in the grades of wool top used in the manufacture of military clothing are contemplated after the cessation of hostilities in Europe. Instead, output must continue to grow during the entire balance of this year to make up the projected deficiency in minimum needs.

The Army's increasing demand for wool top is due to the war's intensified pace and the fact that weather and terrain conditions will be more severe and rugged as the European conflict draws to a close and the fighting in the Pacific moves north toward Tokyo. More than ever, it is essential that our troops have the right type of clothing at the right time in the right amounts.

You have every reason for pride in the contribution that the members of your union have already made and are now making toward final victory. Their past performance is the best assurance that they will stay on the job so that our fighting men may have a sufficient supply of combat clothing to finish their job.

Everything you personally can do, directly or indirectly, to assure attainment of our production goal will be of major help in shortening the war.

Sincerely yours, E. B. GREGORY,
Major General, The Quartermaster General

Tension Vibrator Compares TIRE-CORD VALUES

HIGHLIGHTS: Machine shows importance of factors other than tensile strength. Uniformity of rayon stands out. Tests being developed to predict effect of actual use.

By Dr. L. LARRICK
The B. F. Goodrich Co., Textile Research Laboratory

FATIGUE RESISTANCE, as of tire cord, is one of those loose concepts which defy precise definition. Generally, some type of test specimen is subjected to cyclic deformation; and the time, or number of cycles, to failure is measured. There may be imposed on the specimen a fixed static load in addition to the cyclic stresses.

Fatigue tests should be differentiated from endurance tests. The latter are made on full-scale commercial products, or replicas thereof. Fatigue tests, on the other hand, are made on specimens which need bear no resemblance to the final product. The correlation between fatigue tests and service performance, therefore, is highly empirical.

The present work is a continuation of that previously reported.[1] The subject matter will be restricted to only one of the many industrial fabrics, namely, tire cord.

The expression *tire cord* itself escapes definition. Any stranded material which is used as the strength-member of a tire, either as parallel strands or in a woven fabric, is called tire cord. Technically it may be a plied yarn (or doubling), or it may be a hawser or cable construction cord. Even monofilaments have been discussed and tried as tire cord.

The material composing the tire cord may be cotton or regenerated cellulose or any of a number of synthetics—or even metal, as wire. Cellulose only will be considered here.

EQUIPMENT. The test apparatus to be referred to is that described in U. S. Patent 2,240,505. In it, a length of cord is suspended under a static load which is a fraction of the apparent tensile. The grip from which the cord is suspended is subjected to approximately simple harmonic vibration in the vertical plane of the cord. Test conditions are such that the imposed frequency is four to five times the natural frequency of the system. The amplitude chosen has been found to give results which correlate with service requirements.

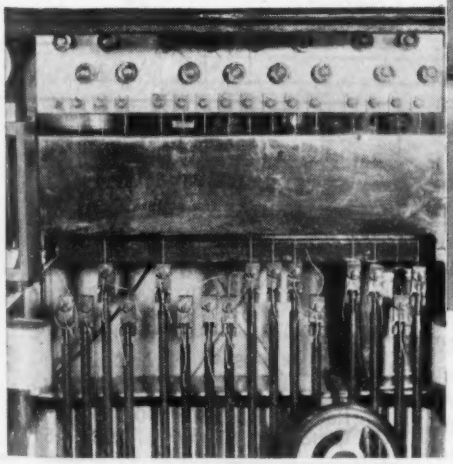
The machine[2] has been completely redesigned as a self-contained unit. Careful consideration has been given in the design to the principles of simplicity, accessibility, safety, and ease of operation.

The B. F. Goodrich tension vibrator (Fig. 1) is about 65-in. high, by 35¾-in. wide, and 23-in. deep at the base. All parts are accessible from the front door, the removable back panel, or the hinged top. The interior is adequately illuminated, and the progress of a test is visible through the glass panel in the door.

A complete record is provided of the temperature variations and of the time of failure of each length of cord. Each test is comparative; eight lengths of the one cord are hung on the set of grips, and eight lengths of the other cord on the other set.

A portion of the cord between the grips is heated in order to accelerate the test. This heating is accomplished by means of an electrically heated oven.

The oven is a welded steel container with 16 thin-walled tubes passing through vertically. The cords are hung through these tubes. The heat-transfer medium is a special heat-transfer oil, capacity 2 gal. Circulation of 6 gal./min. is provided by an impeller pump in front of the oven. There is



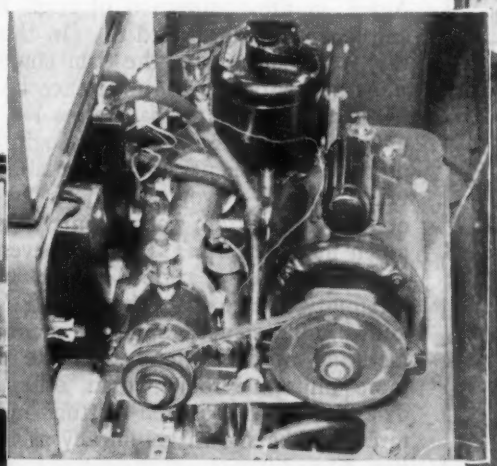


Fig. 1. General view of B. F. Goodrich tension vibrator (right). Operating mechanism of vibrator (above). Close-up test in progress (left).

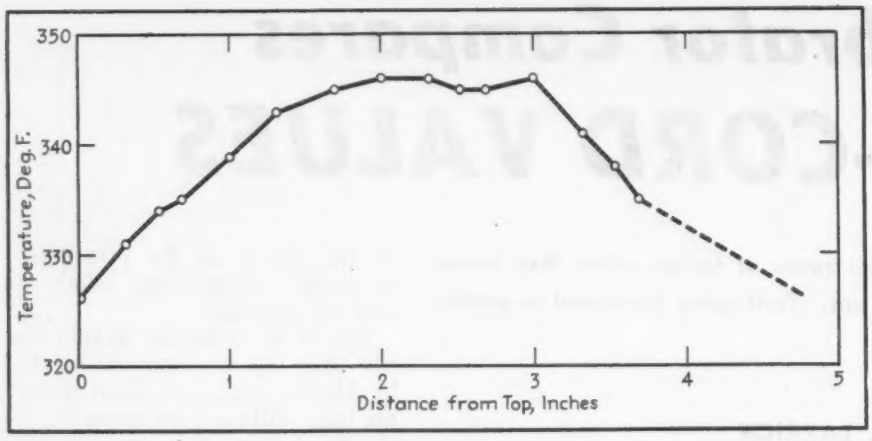


Fig. 2. Temperature distribution in tubes.

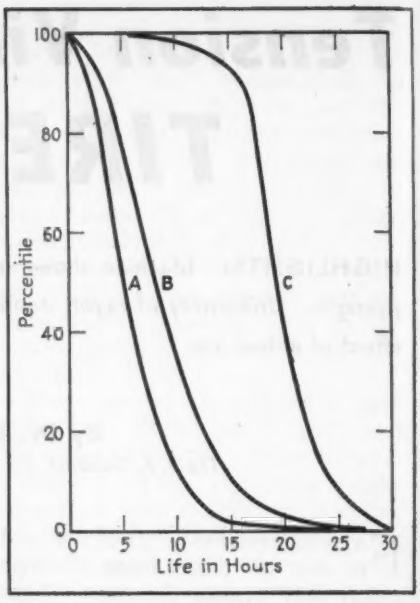


Fig. 3. Distribution of failures (mortality curves), A and B are cotton, C is rayon.

no oven insulation, as such, since effective insulation is provided by the polished chrome-plated exterior.

Three commercial 600-watt immersion heaters provide the desired temperature. The deviation between any tube temperature and the surrounding oil does not exceed 2°F.

OBSERVATIONS. All fatigue or endurance tests are necessarily statistical in nature. Data obtained over a number of years with the B. F. Goodrich tension vibrator indicate that the distribution is symmetric and unimodal. The average and the median agree very closely, even on a 16-length test.

The principal statistic needed is the arithmetic average. The median serves as a check on the test procedure—it has been observed, in those cases when there was not good agreement between average and median, that generally some error of procedure or computation could be detected.

A measure of uniformity is also desirable. It is believed that, all other factors being equal, the more uniform cord will produce the better tire performance. The range—(maximum-minimum)/average—is an easily computed measure of variability. The standard deviation is even more valuable.

These observations are illustrated in Table I wherein are gathered the principal statistics on fatigue life of a number of standard rayon cords. If, for instance, one had to choose between cords 4 and 5, one would select 5 because of the greater uniformity. Again, in the comparison of cords 8 and 9, one would discard 8. (In this case, careful check of the data could show no reason for the difference between average and median values.)

Cotton, which is a biological product, is inherently highly variable. High tenacity rayon, which is frequently made from cotton linters, is much more uniform. However, even rayon possesses a certain degree of variability due to many causes. It is known, for instance, that some manufacturing processes tend to make a more uniform product than others. The difference between cotton and rayon can be shown graphically as in Fig. 3.

Here are plotted the mortality curves for two cotton cords (shown in curves A and B) and one rayon (curve C). The data were obtained from 500 failures of each of the cottons and 100 failures of the rayon. The lateral displacement of the curve for rayon has no significance. It is highly significant, however, that the coefficient of variation of rayon is 19, while that of cotton is 43 to 58. Analogous differences in uniformity of tensile data can be shown.

Consequently, it is more economical to obtain fundamental information

TABLE I.

Principal statistics of distribution of fatigue life of several rayon cords.

Cord Number	Average (hours)	Median (hours)	Range (percent)
1	2.65	2.65	40
2	2.00	2.02	47
3	2.00	2.09	52
4	2.10	2.13	51
5	2.12	2.17	33
6	1.10	1.12	59
7	2.35	2.33	49
8	2.59	2.71	94
9	2.50	2.57	38

TABLE II.

Comparison of fatigue resistance of cotton and rayon cords of identical tensiles.

	Rayon	Cotton
Cord Tensile (O.D.)	17.96 lb.	17.88 lb.
Vibr. life at normal conditions (3.5 lb. & 340° F. on rayon; 5.0 lb. & 300° F. on cotton)	12.79 hr.	14.76 hr.
Vibr. life at 5.0 lb. load (340° F. on rayon; 300° F. on cotton)	4.68 hr.	14.76 hr.
Vibr. life at 320° F.		
(a) at 5.0 lb. load	5.3 hr.	5.9 hr.
(b) at 3.5 lb. load	16.3 hr.	28.3 hr.

TABLE III.

Correlation between fatigue life and tensile of rayon cords.

Yarn	Tensile (pounds)	Vibrator Life (percent)
Acceptable high tenacity	17	90
Supplier U, sple 1	17	26
Supplier U, sple 2	16	116
Supplier U, sple 3	17	79
Supplier U, sple 4	17	99
Supplier V	18	144
Supplier W	19	125
Supplier X	24	119
Supplier Y	25	70

TABLE IV.

Relative age-resistance of cotton and rayon.

A. Loss in Tensile

	Unaged	Aged	Loss
Rayon	17.96 lb.	16.24 lb.	10%
Cotton	17.88 lb.	16.29 lb.	9%

B. Loss in Fatigue

	Unaged	Aged	Loss
Rayon	12.79 hr.	10.63 hr.	17%
Cotton	14.76 hr.	7.30 hr.	51%

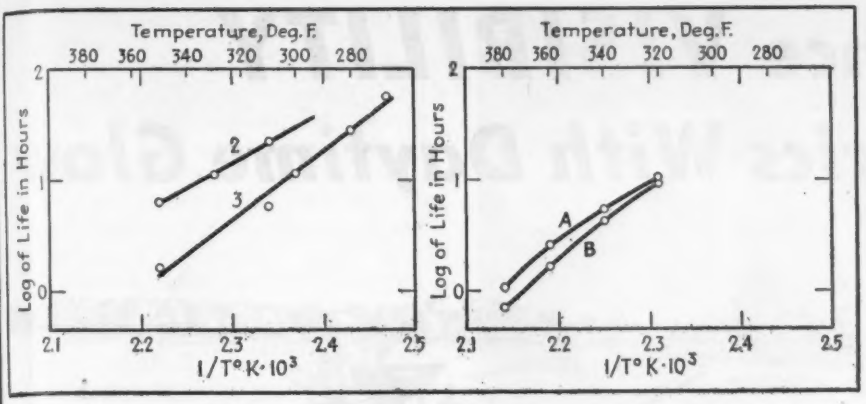


Fig. 4. Effect of temperature on vibrator life. (Reprinted from J. App. Phys.)

Fig. 5. Effect of temperature on vibrator life. (New data)

relating to the fatigue tester on rayon. The information can then be checked on cotton, at a greater cost in time.

A large number of tests are required even with rayon. Experience has indicated that the coefficient of variation is roughly constant over a wide range of temperatures. Having established a norm, X, one can predict how many lengths, *n*, must be broken to detect any given significant departure, ΔX, from that norm by standard statistical methods such as[4]

$$\Delta X = 2\ t\ S/n^{\frac{1}{2}}$$

where S is the standard deviation and *t* may be taken as 1, 2, or 3 with the appropriate uncertainties.

Experience has indicated that a 16-length test is adequate for routine work but that in critical cases at least 32 lengths of rayon must be used. Cotton is generally tested with 32 lengths, but 64 must be used for dependability.

RESULTS. Experimental results show the following:

1. *Effect of Temperature.* It has been demonstrated that when the logarithm of the average life is plotted against the reciprocal of the absolute temperature (Fig. 4), a straight line is obtained. The slope of this line seems to be characteristic of the material. Cotton (curve 3) is more sensitive to temperature than rayon (curve 2). No differences between different rayons have been reported.

The range of possible test temperatures has been increased with the new machines. Two rayon cords which differ only in respect to the manufacturer of the yarn have been tested at temperatures up to and including 380°F. When the logarithm of the average life is plotted against the reciprocal of the absolute temperature (Fig. 5), the curves are not straight lines. The one rayon, A, is less sensitive to temperature than the other, *B*.

2. *Effect of Load.* It is a fundamental principle of fatigue testing that the superimposed static load be much less than the apparent tensile. It has been shown[1] that the test results are very sensitive to load and that the fatigue

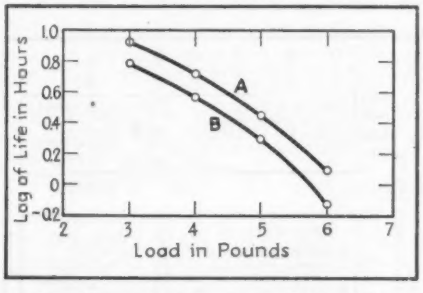


Fig. 6. Effect of load on vibrator life.

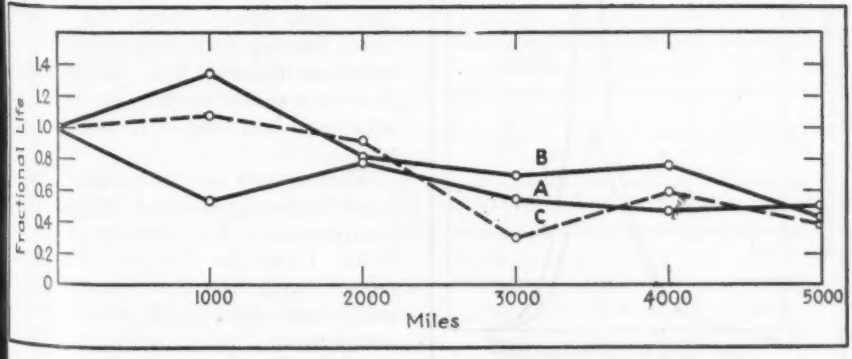


Fig. 7. Loss in vibrator life with product use.

TABLE V.

Comparison of vibrator test and tensile aging test for two rayons.

A. Loss in tensile on aging 48 hr. at 320° F.

Cord	Unaged	Aged	Loss
B	16.7 lb.	12.4 lb.	26%
A	18.0 lb.	14.2 lb.	21%

B. Relative fatigue life (A/B)

Temp.	Rel. Life
320° F.	1.13
340° F.	1.28
360° F.	1.49
380° F.	1.57

test merges into a tensile test at high loads.

However, at low loads the separations obtained are definitely not tensile separations. The effect of load on the same two rayon cords used above is shown in Fig. 6. These two cords have tensiles of 19.5 lbs. for A and 17.5 lbs. for *B*, a ratio of 1.11. The smallest value of the ratio of fatigue lives is 1.38; while as the load begins to approach a value equal to one-half the tensile, the separation on the vibrator increases.

3. *Comparison of Rayon and Cotton.* Historically, the B. F. Goodrich ten-

(Continued on page 194)

YOU Can Help

PAPER is a Number 1 war material shortage—because over 700,000 different war items are wrapped, packaged, labelled, tagged, or made from paper or container board. The Pacific war, when it speeds up, will require stupendous amounts of paper and board since double and triple packing are required for protection against weather, insects, etc.

So please—

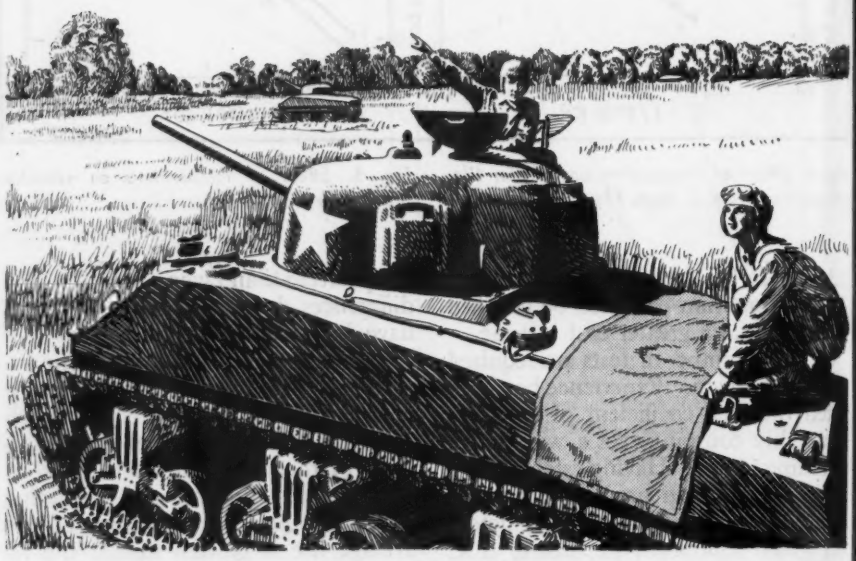
1. *Share this magazine with your associates. Because of the paper shortage, the number of copies is limited.*
2. *Organize for a continuous drive in your office and plant to collect waste paper of any kind to put into paper salvage. Clean out old files, dead correspondence, obsolete records, useless display materials, cartons, etc.*

Aid the war effort—speed victory
DO THIS EXTRA BIT TO HELP.

Long-Distance VISIBILITY From Fabrics With Daytime Glow

HIGHLIGHTS: Photo-luminescent colors vastly improve daytime military signaling at great distances. Used also at night with local source of ultra-violet rays. Cellulose acetate found to have needed properties to take photo-luminescent impregnants.

By JOHN M. JOHNSTON
McGraw-Hill Cleveland News Bureau



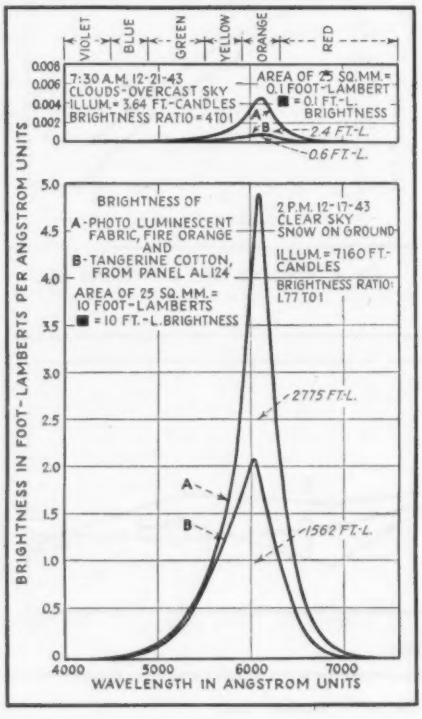
Use of photo-luminescent panel by tanks in the field to make possible quick identification by air forces while the planes are still at high altitude.

LIFTING OF MILITARY SECRECY has revealed a spectacular contribution to Allied tactical successes by the textile and chemical industries and explained the mystery attending military consumption of large quantities of a luxury fabric.

Although many textile chemists have neither seen nor heard of them, photo-luminescent fabrics, perfecting signal communication between ground and air forces and carriers and pilots, are requiring millions of yards of acetate-rayon satin. They are being flown to all battle fronts under high priority.

Photo-luminescent fabrics are light-converters. They have the property of converting invisible ultraviolet and other high-frequency radiations from the sun to lower-frequency energy and emitting them as colored light, useful for daytime signaling at great distances because of the great brilliance added to the color. Ordinary orange bunting, for example, reflects only the orange component of the sun's rays. Photo-luminescent orange, however, not only reflects the orange component but also converts other components into visible orange light, thereby stepping up the color brilliance by several times.

The impregnant which gives this property to acetate rayon is one of several new developments in the field of photo-luminescence made by Switzer Bros., Cleveland research chemists. It is being manufactured under license by the Conti-glo Division of Continental Lithograph Co., Cleveland, a subsidiary of Warner Bros. Pictures, Inc.



The curves on the right compare the brightness of an orange photo-luminescent fabric under two extremes of Cleveland sky conditions with the brightness of a standard "International Safety Orange," long used for signaling throughout the world. The total brightness, one of the primary functions governing visibility at a distance, is indicated by the size of the area bounded within each curve and is described numerically in Foot-Lamberts. The purity of hue, a primary function governing color-distinction at a distance, is indicated by the relative narrowness of each curve. The superiority of the light-transforming fabric over the old standard in this test varied from 177% in strong mid-day sunlight to 400% under heavy overcast at early morning.

DISTANT VISIBILITY NEEDED. In the first stages of the war, Allied ground forces identified themselves to their air forces by forming code patterns on the ground with cloth panels. Early in the African campaign, these were found dangerously inadequate. Pilots of bombing craft were forced to descend to low altitudes to distinguish their own tanks, trucks, or installations, thereby becoming vulnerable to enemy anti-aircraft fire. When identification was not made, the result was occasional bombing of friendly ground units.

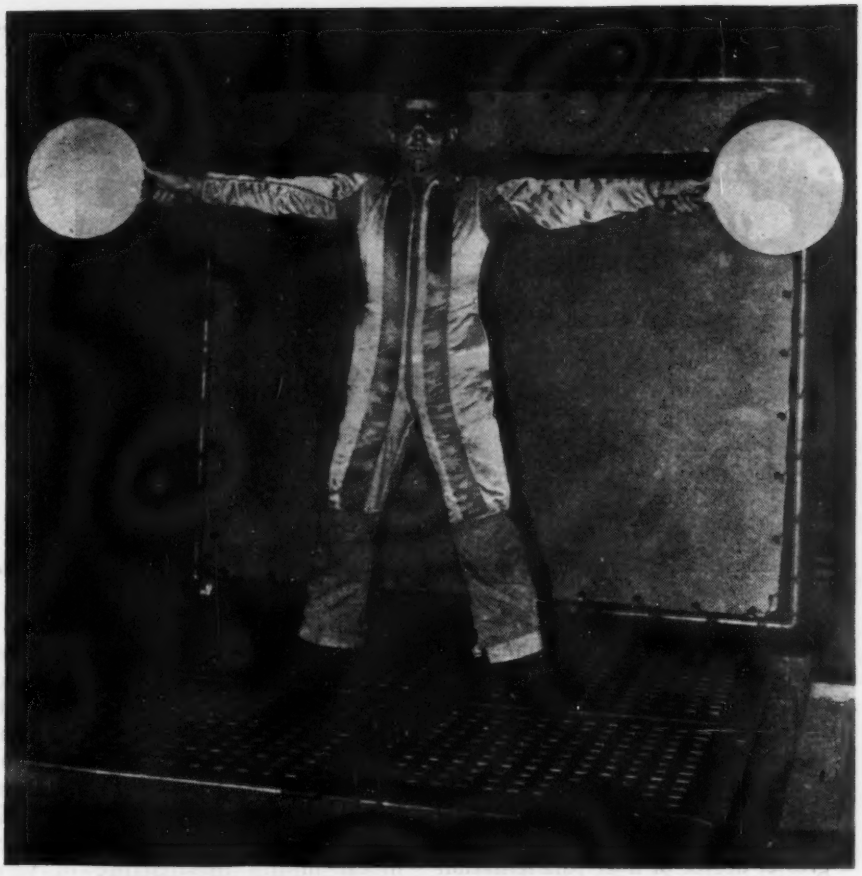
The urgency of this problem led to a call for the Air-Ground Identification Conference at Fort Benning, Ga., in 1942. Conti-glo daylight fluorescent fabrics, with which the services had made some experiments, were tested in competition with ordinary colored panels, colored smokes, lights, pyro

technics, and other daytime signaling means.

It was found that Conti-glo's Neon Red and Arc Yellow, on panels 2½ x 12 ft., could be distinguished at surprising altitudes and would enable pilots to identify their own ground forces *before* they had commenced their dive and been committed to release of their bombs.

Photo-luminescents are complex organic compounds, having a common molecular nucleus. They have no chemical kinship with such inorganic fluorescent or phosphorescent materials as the radio-active salts, or the inorganic materials employed for such purposes as coating the screens of fluoroscopes.

Daylight-transforming fabrics "fatigue" under long-continued exposure to direct sunlight. Since they gradually whiten, however, their effectiveness is always at least equivalent to a white fabric. The four colors, Neon Red, Fire Orange, Arc Yellow, and Saturn Green, are stable under sunlight in that order. The panels are lacquer-coated and may be cleaned by wiping.



Landing signal officer on U.S.S. Aircraft Carrier Bennington in fluorescent-lighted night uniform. Photo is from Kodachrome which loses color brilliance in black and white reproduction. Coverall and paddles are yellow and two vertical stripes from collar to knees are red.

FOR NIGHT SIGNALING. The ability of these textiles to convert invisible ultraviolet light into visible colored light has also been used with great success in night signaling operations. In such uses it is desired to cause only the signal device to become visible in the darkness, and thus to avoid use of spotlight or floodlight which might be visible to the enemy.

Here the fabrics are used with a local source of invisible ultraviolet of controlled intensity, and become visible amid dark surroundings by virtue of their brilliant internal glow.

The landing officer's signal stations on the newer aircraft carriers are equipped with ultraviolet units, arranged for the activation at night of the officer's photo-luminescent uniform and paddles. Then these fabrics, brilliantly visible through haze or at dawn and dusk, become an animated fiery target in darkness toward which the approaching pilot aims his plane. Volunteered comment from carrier officers has been enthusiastic.

The entire project was kept secret until last year, possibly until capture by the enemy of some of the signal panels. At that time the Celanese Corp. of America told of the discovery and reported the use of its cellulose acetate fabric as a successful base fabric for the photo-luminescent impregnants.

In their early research, Switzer brothers discovered that daylight fluorescence resulted only when the impregnants (completely lacking in light-converting properties in their crystalline state) were dispersed throughout a filament capable of acting as a "solvent" for them and of holding them in a peculiar "solvated" state of molecular dispersion somewhat akin to liquid solution.

Cellulose acetate alone among commercially available materials showed a capacity for permanently retaining the impregnants in the "solvated" state.

FABRICS USED. The first light-transforming fabric offered experimentally was a five-shaft bright satin, 235 ends per inch of 120 den. yarn and 74 picks per inch of 200 den. This has been the only weave used in the millions of yards going into U. S. air-ground signal panels. It still remains the only weave in specifications for this purpose; none of the improvements offered experimentally have been adopted.

This original satin weave has also been employed extensively for daytime distress signal flags used in lifeboats, for liferaft float covers, parachute-kit signal-blankets, and many other applications such as the landing officer's signal equipment, shown in the illustration, which is used in directing planes to safe landings on U. S. and British carriers.

Other Allied forces, following the U. S. lead in using photo-luminescence for air-ground signaling, have adopted other cellulose-acetate weaves of rugged quality supplied by a Canadian licensee. Similar weaves have also been adopted in the U. S. for other signal devices required to withstand rougher usage, such as naval flags and markers.

Normal aging has little effect on the daylight photo-luminescent fabrics if stored or used out of direct sunlight. They are considerably less stable to direct sunlight than are ordinary colored fabrics intended for outdoor signaling. The impregnation fades roughly in direct proportion to the intensity of the sunlight; in Cleveland, for example, fading is approximately thirteen times as rapid in mid-summer as in mid-winter. Though they may be practical for continuous-exposure use on certain signal devices in Cleveland in winter, continuous summer exposure would necessitate replacement several times.

Most military applications of the fabrics have required intermittent rather than continuous sunlight exposure. However, large quantities of some types have been procured for applications requiring continuous exposure to sunlight, water, and wind.

COTTON COMBING Prerequisite

By E. H. HELLIWELL
and H. J. BALL

YARN STRENGTH and appearance are the two quality factors the enhancement of which is most directly attributable to the cotton comber. The action of this machine removes a predetermined percentage of short fiber and the remainder of the neps and fine matter left after carding. In addition, a greater degree of fiber parallelization is obtained than by carding alone, and increased luster and smoothness are given to the finished yarn.

Some years ago, yarn organizations seldom called for combing of warp yarns under 40s or of filling yarns under 50s. More recently, however, many yarn organizations call for combing of coarser industrial yarns and of knitting, embroidery, crocheting, and thread yarns. The present trend is toward combing all quality yarns above 30s for shirtings, dress goods, and fine sheetings.

Many of the carded yarn mills, in the past, improved the appearance of their yarns by resorting to double carding. This doubled the cost of the carding process and failed to achieve the results obtained by the comber, because the latter has superior fiber-selection, nep-removal, and straightening action.

The high percentage of waste removed by the comber, with the resulting increased cost of the product, has deterred many manufacturers from using combers on their medium-quality products. However, waste percentage is adjustable, and this flexibility is one of the most valuable features of the comber. Ranges of controlled waste removal, from a low of 5% to a high of 30%, make combing equally adaptable to medium-quality, fine-quality, or super-quality goods.

MODERN PRACTICE. Many manufacturers are actually able to save money on their cotton purchases by the careful selection of grade and staple, and by the use of combers. A better product can be made from the same cotton than is possible with a carded yarn, or an equal-quality product can be made from a lower-priced cotton. The positive control of short fiber and nep removal insures maintenance of yarn strength and appearance.

In cotton yarns for industrial use, strength is of prime importance; and it is only slightly less essential in many types of consumer goods. A comparison is given in Table I of the skein strengths of carded and combed yarns made from the same staple lengths. From those figures, which have been compiled from Sheldon's tables, it can be seen that combed yarn is about 10% stronger than carded yarn made from the same staple. The percentage of comber noils is not given, as this will vary according to the quality of cotton and the yarn required.

Sheldon's Chart, Fig. 1, shown for the complete range of combed yarn counts and staple lengths, is useful in determining the staple length to select for the desired yarn strength.

STRENGTH AND APPEARANCE. The higher strength of combed yarn over carded is due mainly to two factors. First, removal of short fibers increases the mean length of all fibers in the yarn, thereby increasing the strength which is directly proportional to mean-fiber length. Second, the improved parallel order of all fibers in the yarn permits more perfect contact of adjacent fibers and makes the inserted

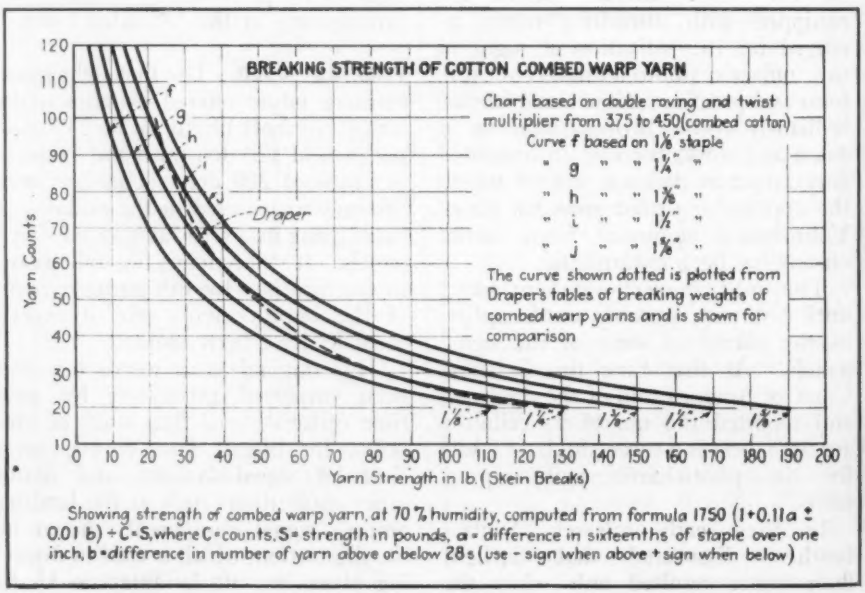

BREAKING STRENGTH OF COTTON COMBED WARP YARN
Chart based on double roving and twist multiplier from 3.75 to 4.50 (combed cotton)
Curve f based on 1 1/8" staple
" g " " 1 1/4" "
" h " " 1 3/8" "
" i " " 1 1/2" "
" j " " 1 5/8" "
The curve shown dotted is plotted from Draper's tables of breaking weights of combed warp yarns and is shown for comparison
Draper
Yarn Counts
Yarn Strength in lb. (Skein Breaks)
Showing strength of combed warp yarn, at 70% humidity, computed from formula 1750 (1+0.11a ± 0.01 b) ÷ C = S, where C = counts, S = strength in pounds, a = difference in sixteenths of staple over one inch, b = difference in number of yarn above or below 28s (use − sign when above + sign when below)

Fig. 1. Sheldon's chart is used to determine cotton staple length for desired yarn strength in counts from 20s to 120s.

COMBING Becomes of Quality Yarns

HIGHLIGHTS: Present trend is toward combing all quality yarns above 30s. Cost can be held down. Waste removal controllable from 5 to 30%. Speck and nep control system uses ruled glass.

twist more effective in preventing fiber slippage when stress is applied to the yarn. A minor factor is the elimination of neps which prevent the even distribution of inserted twist. The yarn breaks at the slightly thickened place caused by the enclosed nep because of the reduced twist in the yarn at this point.

There is one important point often overlooked when estimating the relative costs of carded and combed yarns. This is the use of lower twist-multipliers on roving and yarn made from combed sliver. The increased front-roll speed, production, and lower operating costs partly offset the cost of combing.

The appearance of the finished goods in many consumer lines is of greater importance than yarn or fabric strength. This appearance quality is readily apparent to the eye of the buyer and needs no laboratory device to detect its presence and value.

SPECK REMOVAL. Carded yarns of medium-fine quality are being made from high-grade cottons by slow carding. This requires, however, additional strippings, increased flat speeds, closer settings, and more card-waste removal. Combing, because of its better control of nep, trash, and short-fiber extraction, permits the use of lower-priced cotton, normal card production, and regular stripping. The results are lower card-waste losses and a greater assurance of meeting all quality requirements. This is important when considering carding and combing costs.

"Neps" is a general term used to designate small bundles of tangled or matted cotton fibers, with or without small fragments of leaf or seed attached. Cotton technologists often make fine distinctions as to what constitutes true neps, nap, and seed fragments; but these all affect the appearance of the finished yarn, and their removal is essential to a good-quality product.

Speck is a term receiving increased acceptance in laboratory analysis to describe imperfections in yarn or cloth due to the presence of visible foreign matter. Its more general use will obviate the necessity of determining what is a true nep. One reason for differentiating between true neps and small particles of seed or leaf is that the latter have no fibers attached and are therefore much easier to remove than neps.

Experience proves that the pin-leaf or pepper-trash contained in some types of cotton is the most difficult to remove. Reduced card-doffer speeds often fail to clear up the web. The so-called scratch combing has proved effective in treating this type of cotton. With this method, waste removal is low (5 to 10%); and control adjustments prevent the extraction of good fiber, remove the objectional small particles and fuzz-fiber, and straighten the retained fibers.

The yarn-appearance charts furnished by the government offer only a rough comparative method of determining the degree of yarn cleanliness. A more precise method is required for guidance in making settings and adjustments to improve yarn quality. A suitable system of nep or speck count assures a rapid and precise appraisal of yarn purity.

QUALITY CONTROL. There is a wide variance in the many technics used in nep or speck count. There are differences in the size of specimens taken, the methods of obtaining and preparing specimens, and the numerical values used to express the results of the counts. Many of these methods are too complicated and time-consuming to have much practical value in actual mill control of yarn purity.

A brief outline of the selection and adaptation of the best features of these many systems will show how yarn and cloth purity may be easily and quickly determined and how the values may be expressed to make them comparable to other specimens or to established standards for purity. Without some such method or standard for comparison, the vague appraisal that "the product looks neppy" will have to be accepted without knowledge of the

(Continued on page 202)

Table I.—Carded and Combed Warp Yarns, Strength in Pounds

Counts	1⅛ in. Staple		1¼ in. Staple		1⅜ in. Staple	
	Carded	Combed	Carded	Combed	Carded	Combed
20s	103.5	113.	122.5	132.5	140.5	151.5
28s	70.	76.5	81.5	90.	93.	105.
36s	51.	56.	60.	66.5	70.	77.5
42s	41.	45.	49.	54.	58.5	64.
50s	32.	35.	39.	43.	46.5	51.
58s	25.	28.	31.5	34.5	38.5	41.

Fig. 2. An example of nail removal—fiber array of comber nails removed from 1⅛-in. peeler cotton, amounting to 17% waste extraction.

A few of the trailers used to house workers of the Winnsboro Mills are shown here shaded by southern pine trees. The Army cooperated in trailer project since tire-cord and duck fabric produced at Winnsboro are among the items most urgently needed in the war effort. A critical housing program had prevented the mills from securing enough help to run machinery full time. About 200 yd. away from the trailers are grocery and vegetable stores; a little further on, other stores, a beauty parlor, and a bus stop.

TRAILERS and NURSERY Relieve Manpower Problem

Fire protection is provided for the safety of the occupants at the trailer camp.

HIGHLIGHTS: Winnsboro, S. C., plant of U. S. Rubber Co. finds trailers increased employees available by 4.5% and production by 8%. Nursery operates 24 hr. daily seven days a week to aid working parents.

A TRAILER CAMP and a nursery are two items which have done much to relieve a critical manpower shortage at the Winnsboro Mills of the U. S. Rubber Co., Winnsboro, S. C. The mills produce tire-cord fabric and cotton duck, two of the more critical textile items needed in the war effort.

Use of trailers is responsible for an increase of 4.5% in the total of people now employed there, and a total increase in production of about 8%.

In addition to the trailers at Winnsboro, others—totalling 100 all together—have been sent to the Reid and Stark mills at Hogansville, Ga. They represent the first GI equipment to be consigned to civilian use. These

Mrs. Elmer Baggott, whose husband is in the Armed Forces, is helping to produce war material at Winnsboro. Here she dresses Elmer, Jr., while Sandra, aged 4, looks on in their trailer-camp home.

Miss Genevieve Stroupe takes in the milk and paper after early-morning delivery. Inside the trailer is an ice-box, gas range, running water, and the majority of conveniences found in modern homes.

Mr. and Mrs. Thurman C. Sims and their three-year-old daughter, Jackie, live in a modern GI trailer supplied by the Army to relieve a critical housing shortage which affected production of needed textiles.

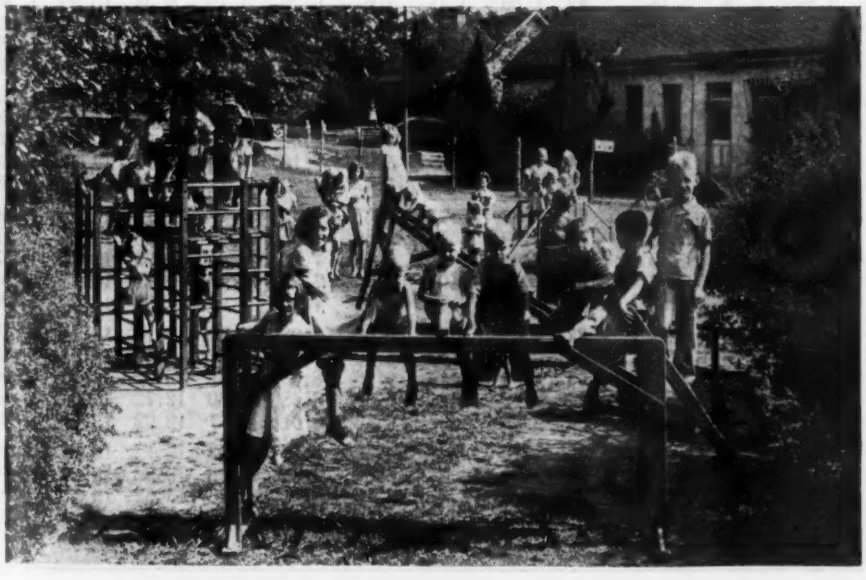
Miss Omega Cooper, one of two trained nurses, is shown here inoculating children at the nursery, immediately adjacent to the Winnsboro Mills of U. S. Rubber Co., Winnsboro, S. C. The nursery was set up under the Latham Act following a Civilian Defense Corps survey.

Children are encouraged to rest during part of their time at the nursery which is open day and night to help keep their parents on the job producing war materials. Children are segregated by age while resting as well as while playing when at the nursery.

trailers have proved to be such a success that new requests have been made to the Army for 100 more.

NURSERY HELPS. Frequently, mothers living in the trailers leave their children at a nursery located next to the mills, both while at work and while doing home-making tasks such as shopping, cleaning, and cooking. The nursery is open 24 hours a day, seven days a week, and is staffed by a supervisor, a doctor, two trained nurses, and several attendants.

Following a block system survey conducted by the Civilian Defense Corps of Fairfield county, the nursery was set up under the federal Latham Act. First established in a private house at the mill, it is now housed in a modern, concrete building. The nursery is one of the first successful units of its kind set up under the provisions of the Latham Act.



Miss Josephine Mabry, left, is the nursery supervisor. In addition to her, the children in the nursery are cared for by a doctor, two trained nurses, eight teachers, and several attendants, some of which are on duty at all times. The children are here enjoying a refreshment period—or would be if the photographer were not around.

All photographs courtesy U. S. Rubber Co.

General playground scene at the nursery. Children ranging in age from six months to two years are segregated from older ones. The playground has a jungle gym, slides, horizontal bars, and seesaws. Play is supervised to instill the fundamentals of good sportsmanship and companionship.

INDIRECT LABOR Control Developed for Changing Loads

HIGHLIGHTS: Precalculated figures in chart form give immediate data on which second hand may act when number of stopped spinning frames is known. System applicable to other departments.

By J. H. WITHERSPOON

DURING THE PRESENT TIME of partial operation of many departments in a textile mill due to labor shortage, the control of indirect labor has become a real headache to mill executives. This control must necessarily be maintained by the second hand. The average second hand and overseer do not have sufficiently detailed knowledge of the cost system to know quickly what indirect labor must be eliminated for any particular shift that is short-handed in order to meet the standard over-all cost. Furthermore, they do not have the time necessary for the required calculations, if they had the data and were required to work out the amount each day.

A simple and effective means of control is provided by setting up control sheets for each shift based upon the allotted labor, and plotting a labor-distribution schedule showing the amount of indirect labor allotted each frame or combination of frames.

An analysis of the control sheet, shown here for a 223-frame spinning room, will show its simplicity. In the first column is listed the number of frames which each job covers; in the second column are the job classifications; and in the remaining columns are listed the pay of each job by hours from one to eight. These columns are totaled to give the amount of indirect labor allowed for full operation.

The indirect labor-distribution schedule is the key for this system of control. It is equally as simple as the control sheet. In the first column are listed the frames in numerical order from one to 223; and in the remaining

Spinning Indirect Labor Distribution

Frames	1 hr.	2 hr.	3 hr.	4 hr.	5 hr.	6 hr.	7 hr.	8 hr.
1	.04	.07	.10	.13	.17	.20	.23	.27
2	.07	.13	.20	.27	.33	.40	.46	.53
3	.10	.20	.30	.40	.50	.60	.70	.80
4	.13	.27	.40	.53	.66	.80	.93	1.06
5	.17	.33	.50	.66	.83	.99	1.16	1.33
6	.20	.40	.60	.80	.99	1.19	1.39	1.59
7	.23	.46	.70	.93	1.16	1.39	1.59	1.86
8	.27	.53	.80	1.06	1.33	1.59	1.86	2.12
9	.30	.60	.89	1.19	1.49	1.79	2.09	2.39
10	.33	.66	.99	1.33	1.66	1.99	2.32	2.65
11	.36	.73	1.09	1.46	1.82	2.19	2.55	2.92
12	.40	.80	1.19	1.59	1.99	2.39	2.78	3.18
13	.43	.86	1.29	1.72	2.15	2.58	3.01	3.45
14	.46	.93	1.39	1.86	2.32	2.78	3.25	3.71
15	.50	.99	1.49	1.99	2.48	2.98	3.48	3.98
16	.53	1.06	1.59	2.12	2.65	3.18	3.71	4.24
17	.56	1.13	1.69	2.25	2.82	3.38	3.94	4.51
18	.60	1.19	1.79	2.39	2.98	3.58	4.17	4.77
19	.63	1.26	1.89	2.52	3.15	3.78	4.41	5.04
20	.66	1.33	1.99	2.65	3.31	3.98	4.64	5.30
21	.70	1.39	2.09	2.78	3.48	4.17	4.87	5.57
22	.73	1.47	2.19	2.92	3.64	4.37	5.10	5.83
23	.76	1.52	2.29	3.05	3.81	4.57	5.33	6.10
24	.80	1.59	2.39	3.18	3.98	4.77	5.57	6.36
25	.83	1.66	2.48	3.31	4.14	4.97	5.80	6.63
26	.86	1.72	2.58	3.45	4.31	5.17	6.03	6.89
27	.89	1.79	2.68	3.58	4.47	5.37	6.26	7.16
28	.93	1.86	2.78	3.71	4.64	5.57	6.49	7.42
29	.96	1.92	2.88	3.84	4.80	5.76	6.73	7.69
30	.99	1.99	2.98	3.98	4.97	5.96	6.96	7.95
31	1.03	2.05	3.08	4.11	5.14	6.16	7.19	8.22
32	1.06	2.12	3.18	4.24	5.30	6.36	7.42	8.48
33	1.09	2.19	3.28	4.37	5.47	6.56	7.65	8.75
34	1.13	2.25	3.38	4.51	5.63	6.76	7.88	9.01
35	1.16	2.32	3.48	4.64	5.80	6.96	8.12	9.28
36	1.19	2.39	3.58	4.77	5.96	7.16	8.35	9.54
37	1.23	2.45	3.68	4.90	6.13	7.35	8.58	9.81
38	1.26	2.52	3.78	5.04	6.29	7.55	8.81	10.07
39	1.29	2.58	3.88	5.17	6.46	7.75	9.04	10.34
40	1.33	2.65	3.98	5.30	6.63	7.95	9.28	10.60
41	1.36	2.72	4.07	5.43	6.79	8.15	9.51	10.87
42	1.39	2.78	4.17	5.57	6.96	8.35	9.74	11.13
43	1.42	2.85	4.27	5.70	7.12	8.55	9.97	11.40
44	1.46	2.92	4.37	5.83	7.29	8.75	10.20	11.66
45	1.49	2.98	4.47	5.96	7.45	8.95	10.44	11.93
46	1.52	3.05	5.57	6.10	7.62	9.14	10.67	12.19
47	1.56	3.11	4.67	6.23	7.79	9.34	10.90	12.46
48	1.59	3.18	4.77	6.36	7.95	9.54	11.13	12.72
49	1.62	3.25	4.87	6.49	8.12	9.74	11.36	12.99
50	1.66	3.31	4.97	6.63	8.28	9.94	11.60	13.25
51	1.69	3.38	5.07	6.76	8.45	10.14	11.83	13.52
52	1.72	3.45	5.17	6.89	8.61	10.34	12.06	13.78
53	1.76	3.51	5.27	7.02	8.78	10.54	12.29	14.05
54	1.79	3.58	5.37	7.16	8.95	10.73	12.52	14.31
55	1.82	3.64	5.47	7.29	9.11	10.93	12.76	14.58
56	1.86	3.71	5.57	7.42	9.28	11.13	12.99	14.84
57	1.89	3.78	5.66	7.55	9.44	11.33	13.22	15.11
58	1.92	3.84	5.76	7.69	9.61	11.53	13.45	15.37
59	1.95	3.91	5.86	7.82	9.77	11.73	13.68	15.64
60	1.99	3.98	5.96	7.95	9.94	11.93	13.91	15.90
61	2.02	4.04	6.06	8.08	10.10	12.13	14.15	16.17
62	2.05	4.11	6.16	8.22	10.27	12.32	14.38	16.43
63	2.09	4.17	6.26	8.35	10.46	12.52	14.61	16.70
64	2.12	4.24	6.36	8.48	10.60	12.72	14.84	16.96
65	2.15	4.31	6.46	8.61	10.77	12.92	15.07	17.23
66	2.19	4.37	6.56	8.75	10.93	13.12	15.31	17.49
67	2.22	4.44	6.66	8.88	11.10	13.32	15.54	17.76
68	2.25	4.51	6.76	9.01	11.26	13.52	15.77	18.02
69	2.29	4.57	6.86	9.14	11.43	13.72	16.00	18.29
70	2.32	4.64	6.96	9.28	11.60	13.91	16.23	18.55

columns are listed the indirect labor allotted each frame and various numbers of frames up to the total, for time periods of one to eight hours. Obviously any mill using this system will prepare control sheets utilizing its own figures.

When frames are stopped, it is a simple matter for the second hand to look up the number of frames stopped and the hours on the distribution table, and get the amount of savings necessary to meet the standard. This he lists on the space given on the control sheet. From this sheet he selects the labor which must be eliminated and encircles the amounts which he is able to save. The gain or loss is then listed in the space provided.

A separate control sheet is used for each shift and filed for the overseer's use.

A similar set-up may be prepared for other mill departments by listing the indirect labor by job and rate per hour and calculating the full-shift normal, then preparing the labor distribution chart by tabulating the normal cost of indirect labor for all possible combinations of machines and hours.

Spinning Indirect Labor Control

.....Shift Date.....

Frame Basis	Job Classification	1 hr.	2 hr.	3 hr.	4 hr.	5 hr.	6 hr.	7 hr.	8 hr.
74	Second Hand	.80	1.60	2.40	3.20	4.00	4.80	5.60	6.40
74	Section Man	.68	1.36	2.04	2.72	3.40	4.08	4.76	5.44
74	Oiler & Bander	.485	.97	1.46	1.94	2.43	2.91	3.40	3.88
	Roving Hauler	.475	.95	1.43	1.90	2.38	2.85	3.33	3.80
74	Section Man	.68	1.36	2.04	2.72	3.40	4.08	4.76	5.44
74	Oiler & Bander	.485	.97	1.46	1.94	2.43	2.91	3.40	3.88
74	Roving Hauler	.475	.95	1.43	1.90	2.38	2.85	3.33	3.80
75	Section Man	.68	1.36	2.04	2.72	3.40	4.08	4.76	5.44
75	Oiler & Bander	.485	.97	1.46	1.94	2.43	2.91	3.40	3.88
75	Roving Hauler	.475	.95	1.43	1.90	2.38	2.85	3.33	3.80
111	Sweeper	.475	.95	1.43	1.90	2.38	2.85	3.33	3.80
112	Sweeper	.475	.95	1.43	1.90	2.38	2.85	3.33	3.80
	Filling Man	.24	.48	.72	.96	1.20	1.44	1.68	1.92
	Roving Bobbin Cleaner	.475	.95	1.43	1.90	2.38	2.85	3.33	3.80
223	Total	7.39	14.78	22.20	29.54	36.97	44.31	51.74	59.08

Frame hours stopped..... Required savings.....

Remarks..... Loss.....Gain.....

Spinning Indirect Labor Distribution

Frames	1 hr.	2 hr.	3 hr.	4 hr.	5 hr.	6 hr.	7 hr.	8 hr.
71	2.35	4.70	7.06	9.41	11.76	14.11	16.47	18.82
72	2.39	4.77	7.16	9.54	11.93	14.31	16.70	19.08
73	2.42	4.84	7.26	9.67	12.09	14.51	16.93	19.35
74	2.45	4.90	7.35	9.81	12.26	14.71	17.16	19.61
75	2.48	4.97	7.45	9.94	12.42	14.91	17.39	19.88
76	2.52	5.04	7.55	10.07	12.59	15.11	17.63	20.14
77	2.55	5.10	7.65	10.20	12.76	15.31	17.86	20.41
78	2.58	5.17	7.75	10.34	12.92	15.55	18.09	20.67
79	2.62	5.23	7.85	10.47	13.09	15.70	18.32	20.94
80	2.65	5.30	7.95	10.60	13.25	15.90	18.55	21.20
81	2.68	5.37	8.05	10.73	13.42	16.10	18.78	21.47
82	2.72	5.43	8.15	10.87	13.58	16.30	19.02	21.73
83	2.75	5.50	8.25	11.00	13.75	16.50	19.25	21.99
84	2.78	5.57	8.35	11.13	13.91	16.70	19.48	22.26
85	2.82	5.63	8.45	11.26	14.08	16.90	19.71	22.53
86	2.85	5.70	8.55	11.40	14.25	17.10	19.94	22.79
87	2.88	5.76	8.65	11.53	14.41	17.29	20.18	23.06
88	2.92	5.83	8.75	11.66	14.58	17.49	20.41	23.32
89	2.95	5.90	8.85	11.79	14.74	17.69	20.64	23.59
90	2.98	5.96	8.95	11.93	14.91	17.89	20.87	23.85
91	3.01	6.03	9.04	12.06	15.07	18.09	21.10	24.12
92	3.05	6.10	9.14	12.19	15.24	18.29	21.34	24.38
93	3.08	6.16	9.24	12.32	15.41	18.49	21.57	24.65
94	3.11	6.23	9.34	12.46	15.57	18.69	21.80	24.91
95	3.15	6.29	9.44	12.59	15.74	18.84	22.03	25.18
96	3.18	6.36	9.54	12.72	15.90	19.08	22.26	25.44
97	3.21	6.43	9.64	12.85	16.07	19.28	22.50	25.71
98	3.25	6.49	9.74	12.99	16.23	19.48	22.73	25.97
99	3.28	6.56	9.84	13.12	16.40	19.68	22.96	26.24
100	3.31	6.63	9.94	13.25	16.57	19.88	23.19	26.50
101	3.35	6.69	10.04	13.38	16.73	20.08	23.42	26.77
102	3.38	6.76	10.14	13.52	16.90	20.28	23.65	27.03
103	3.41	6.82	10.24	13.65	17.06	20.47	23.89	27.30
104	3.45	6.89	10.34	13.78	17.23	20.67	24.12	27.56
105	3.48	6.96	10.44	13.91	17.39	20.87	24.35	27.83

Frames	1 hr.	2 hr.	3 hr.	4 hr.	5 hr.	6 hr.	7 hr.	8 hr.
106	3.51	7.02	10.54	14.05	17.56	21.07	24.58	28.09
107	3.54	7.09	10.63	14.18	17.72	21.27	24.81	28.36
108	3.58	7.16	10.73	14.31	17.89	21.47	25.05	28.62
109	3.61	7.22	10.83	14.44	18.06	21.67	25.28	28.89
110	3.64	7.29	10.93	14.58	18.22	21.86	25.51	29.15
111	3.68	7.35	11.03	14.71	18.39	22.06	25.74	29.42
112	3.71	7.42	11.13	14.84	18.55	22.26	25.97	29.68
113	3.74	7.49	12.23	14.97	18.72	22.46	26.21	29.95
114	3.78	7.55	11.33	15.11	18.88	22.66	26.44	30.21
115	3.81	7.62	11.43	15.24	19.05	22.86	26.67	30.48
116	3.84	7.69	11.53	15.37	19.22	23.06	26.90	30.74
117	3.88	7.75	11.63	15.50	19.38	23.26	27.13	31.01
118	3.91	7.82	11.73	15.64	19.55	23.46	27.37	31.27
119	3.94	7.88	11.83	15.77	19.71	23.65	27.60	31.54
120	3.98	7.95	11.93	15.90	19.88	23.85	27.83	31.80
125	4.14	8.28	12.09	16.56	20.71	24.85	28.99	33.13
130	4.31	8.61	12.92	17.23	21.53	25.84	30.15	34.46
135	4.47	8.95	13.42	17.89	22.36	26.84	31.31	35.78
140	4.64	9.28	13.91	18.55	23.19	27.83	32.47	37.11
145	4.80	9.61	14.41	19.22	24.02	28.82	33.63	38.43
150	4.97	9.94	14.91	19.88	24.85	29.82	34.79	39.76
155	5.14	10.27	15.41	20.54	25.68	30.81	35.95	41.08
160	5.30	10.60	15.90	21.20	26.50	31.80	37.11	42.41
165	5.47	10.93	16.40	21.87	27.33	32.80	38.27	43.73
170	5.63	11.26	16.90	22.53	28.16	33.79	39.42	45.06
175	5.80	11.60	17.39	23.19	28.99	34.79	40.58	46.38
180	5.96	11.93	17.89	23.85	29.82	35.78	41.74	47.71
185	6.13	12.26	18.39	24.52	30.65	36.77	42.90	49.03
190	6.29	12.59	18.88	25.18	31.47	37.77	44.06	50.36
195	6.46	12.92	19.38	25.84	32.30	38.76	45.22	51.68
200	6.63	13.25	19.88	26.50	33.13	39.76	46.38	53.01
205	6.79	13.58	20.37	27.17	33.96	40.75	47.54	54.33
210	6.96	13.91	20.87	27.83	34.79	41.74	48.70	55.66
215	7.12	14.25	21.37	28.49	35.61	42.74	49.86	56.98
220	7.29	14.58	21.87	29.15	36.44	43.73	51.02	58.31
223	7.39	14.78	22.16	29.55	36.94	44.33	51.72	59.10

Cotton Helps Protect Fire-Fighters

As the wounded "Wildcat" returns to its runway, fire-fighters aboard U. S. Navy Carriers go into action. They're protected from head to foot with suits made of water-repellent, flame resistant Asbeston fabric.

Made of cotton and asbestos, this new material has become standard with the Army and Navy for fire-fighting clothes. Designed to serve the increasing need for a light-weight fabric, Asbeston allows maximum comfort and greater freedom of action to the wearer.

Suitable for fire blankets and tarpaulins, and other uses where flameproof protective coverings are required.

Butterworth Machines are serving at every step in the wet finishing of textiles for Uncle Sam—bleaching, boiling-out, drying, calendering, dyeing.

Butterworth Engineers freely offer their cooperation to mills seeking to increase productive capacity . . . to repair or replace obsolete equipment . . . to develop new machines for special problems . . . to improve plant layout.

H. W. BUTTERWORTH & SONS CO.
Serving the Textile Industry since 1820
Main Office and Works, Philadelphia 25, Pa.
The Textile Finishing Machinery Company Division, Providence, R. I. :: Charlotte, N. C., 1211 Johnston Building :: Hamilton, Ontario, W. J. Westaway Co.

Butterworth

A Machine-Shop's Modernization Includes COLOR DYNAMICS

By T. O. OTT, JR.

HIGHLIGHTS: Expertly-planned painting of shop and machines helps Spartan's shop morale, safety, housekeeping, and efficiency. Home-made individual drives for machine tools eliminate line-shafting, allow better arrangement of shop. Shop organization is flexible and services plant departments without "red tape".

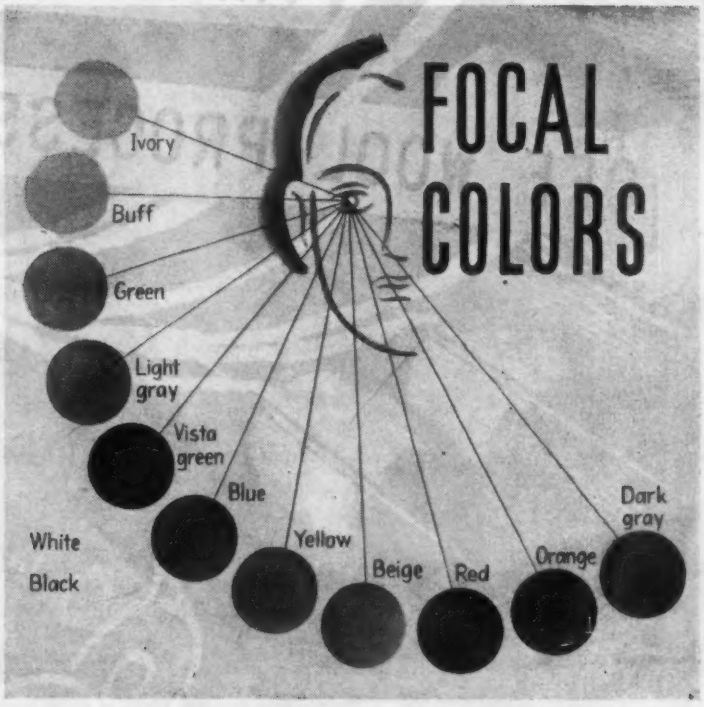


Fig. 1. Range of hues used in color-dynamic painting.

ANY MILL MAN or master mechanic would be proud to have a machine shop similar to the one which serves Spartan Mills, Spartanburg, S. C. This shop, serving an 85,000-spindle mill which is largely on war production, has recently completed the modernization of its machine-tool equipment and, in addition, has given the department a practical beauty-treatment with "color-dynamic" painting. The two programs, modernization of the equipment and painting of the machines and the shop, set an example of shop arrangement and appearance which other mills might be interested in following.

COLOR-DYNAMIC PAINTING. The scheme of painting used in the shop and on the machinery is called "color dynamics" by Pittsburgh Plate Glass Co. which furnished the paint and the color scheme used in refinishing the shop. This company does not claim to be the originator of specialized color painting, but it found that mill and shop men were interested in painting for safety and efficiency, and, with them, worked out its present scheme comprising a group of "focal colors" which are listed in Fig. 1.

The focal colors selected for the machine shop at Spartan Mills are the following: an off-white for the ceiling, "cascade" blue for the walls, and "vista" green for the dado. Frames of the machines are painted in vista green and trimmed with ivory, and the

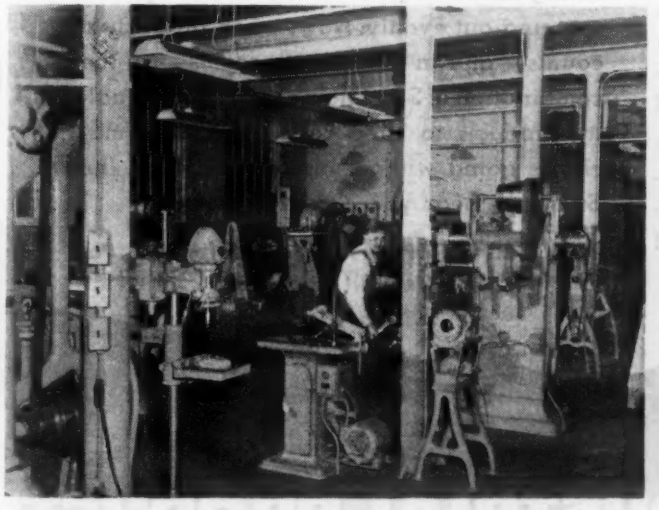


Fig. 2. Individual drives were designed and made for each machine by the shop crew.

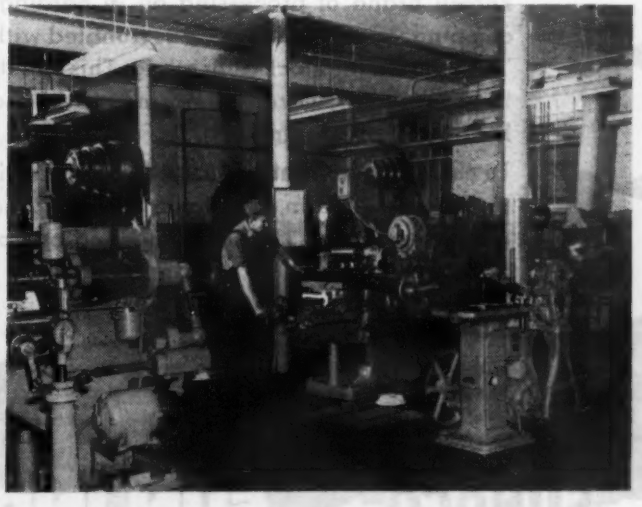
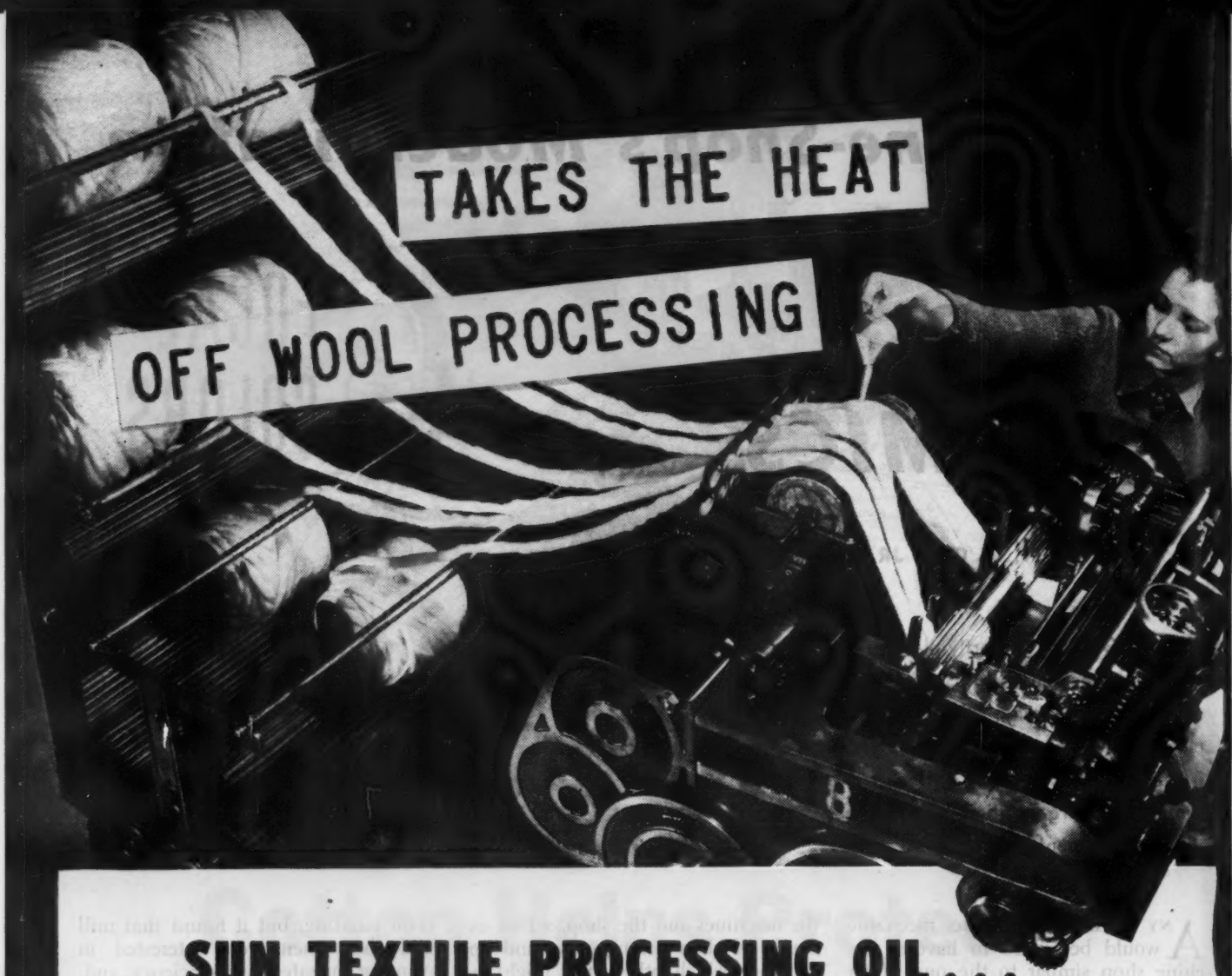


Fig. 3. Color-dynamic painting improves appearance and efficiency of the Spartan Mills' shop.



SUN TEXTILE PROCESSING OIL . . .

Eliminates Oxidation and Combustion-Hazard, Improves Tensile Strength of Yarn

Perfection is attained by paying attention to many small individual operations, and, in textile manufacturing, seemingly small matters, such as the differences in processing oils, often cause the biggest increases in production.

A New England woolen mill used a nationally known brand of processing oil in carding, combing, and spinning . . . was troubled with "heating" of the stock after oiling. This "heating" caused the fibres to become brittle and lacking in tensile strength.

To eliminate the "heating"-hazard, a Sun Engineer was called in, and, after studying the various processes, he recommended one of Sun's special Sunotex processing oils.

Better spinning resulted with less thread-breakage, and greater tensile strength was imparted to the finished yarn. The dangerous heating-condition ended.

In hundreds of mills, Sunotex oils are writing records like this for dependability in lubricating fibres, in penetrating uniformly, and scouring-out evenly. Now, when production counts—and in the days to come—use the combination of Sun Engineers and Sun quality products to keep costs down and machines going without interruption. Call the Sun man near you. Or write direct to . . .

SUN OIL COMPANY • ***Philadelphia 3, Pa.***

Sponsors of the Sunoco News Voice of the Air—Lowell Thomas

SUNOCO

SUN INDUSTRIAL PRODUCTS

OILS FOR AMERICAN INDUSTRY

dangerous moving parts are painted orange. Fire plugs and switch boxes are painted red, and the motors throughout the shop are painted gray.

THE EFFECTS OBSERVED. These colors, with the exception of vista green, cannot be distinguished in the black and white photographs in Figs. 2 and 3; however, it is clear that the total effect is a clean, well-lighted, immaculate shop, very pleasing and restful to the eye. It possesses also the appearance of efficient and safe operation.

A. L. Eledge, the master mechanic, in conversation with the author, was quick to testify that modernization and color-dynamic painting in his shop had helped in very tangible ways, including reduction of eye strain, reduction of accidents, improvement in housekeeping, and production of closer-machined and better-finished parts.

REMODELING EQUIPMENT. Over a period of time, the shop mechanics worked out individual drives for each machine which eliminated all the overhead line shafts previously used. Under individual drives, it was found that the machines could be moved about and rearranged so that more floor space and a better routing of work and material could be attained. It might well be added here that none of the major machines seen in Fig. 2 is a new machine but all are of types which are typical of any cotton-mill machine shop. In addition to removing the line shafting and rearranging the machines to better advantage, fluorescent lighting was installed so that better illumination was obtained at the work level.

SHOP ORGANIZATION. The shop organization is typical of many cotton mills. It is headed by a master mechanic on the first shift who is assisted by a second hand and a specialized shop crew as shown in Fig. 4. This organization chart with the footnote explains the complete organizational set up for this shop. Here, as in the majority of mills, the machine shop is set up entirely as a service organization to the various departments of the mill and no red tape or formality exists in servicing these departments, which eliminates costly delays in the textile plant itself.

FUNCTIONING OF THE SHOP. About all that is necessary for the busy overseer to get a job done is for him to fill out a form, Fig. 5, state as clearly as possible in his own words what he wants done, and then turn the form over to the master mechanic or second hand in the shop. The jobs requested range from emergency repairs, which require minor welding and machining, up to reworking and metallizing loom crankshafts.

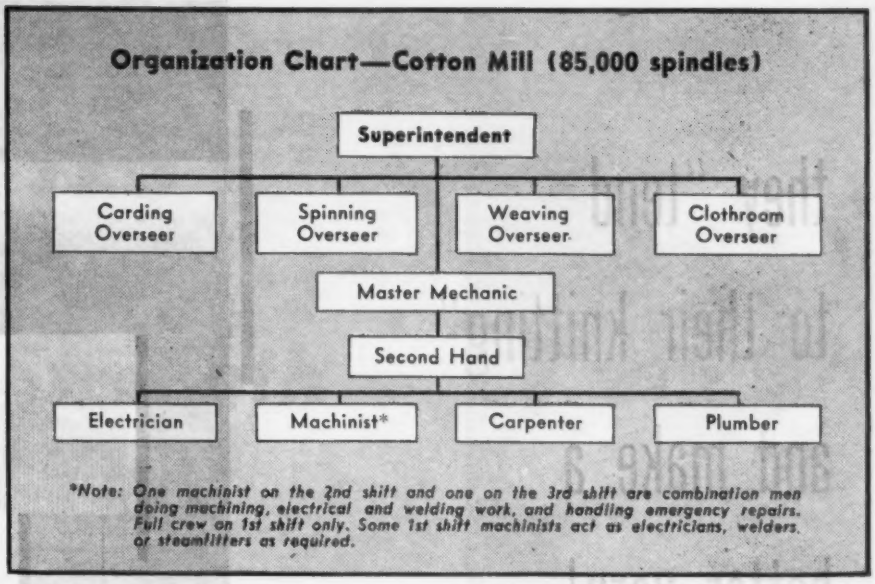

Organization Chart—Cotton Mill (85,000 spindles)
Superintendent
Carding Overseer
Spinning Overseer
Weaving Overseer
Clothroom Overseer
Master Mechanic
Second Hand
Electrician
Machinist*
Carpenter
Plumber
*Note: One machinist on the 2nd shift and one on the 3rd shift are combination men doing machining, electrical and welding work, and handling emergency repairs. Full crew on 1st shift only. Some 1st shift machinists act as electricians, welders, or steamfitters as required.

Fig. 4. Organization of shop maintenance crew for a cotton mill.

The shop crew is very flexible and consists of electricians, machinists, carpenters, steamfitters, and plumbers. At the same time the electricians and machinists can do several other jobs such as welding, metallizing, and steamfitting, thus making the crew very flexible. Generally the work of these specialists is as follows: (1) **Machinists:** making new parts to specification and repairing broken and worn parts; making studs, gears, and bearings; reworking crankshafts, take-up rolls, whip rolls, and worn parts. (2) **Electricians:** maintaining and lubricating motors, and maintaining all electrical equipment in the mill. (3) **Plumbers and Steamfitters:** doing steamfitting and plumbing in the plant, and handling village plumbing. (4) **Carpenters:** doing plant carpentry as well as repair woodwork.

Machinists who can do electrical work, steamfitting, and welding handle emergency work for the second shift and the third shift—one man to a shift.

In conclusion, it might be well to repeat the fact that the machine shop at Spartan as in most mills is purely a service organization, and, as such, is manned, from master mechanic down, by men who are ready and willing to go all-out to keep the plant running. Mr. Eledge and his staff are always ready to give the utmost service to the men running the mill, as Mr. Caughman, the plant superintendent, pointed out. In the Spartan Mills shop, the master mechanic and his staff have ideal working conditions from the standpoint of housekeeping, safety, and prevention of fatigue; and they take great pride in being a mainstay in the operation of the plant.

Machine Shop Work Order

Date Order Placed 2/20

Date Work Completed

Description of Work

Dept. Weave Room:

Rework worn crankshaft.

Overseer John Doe

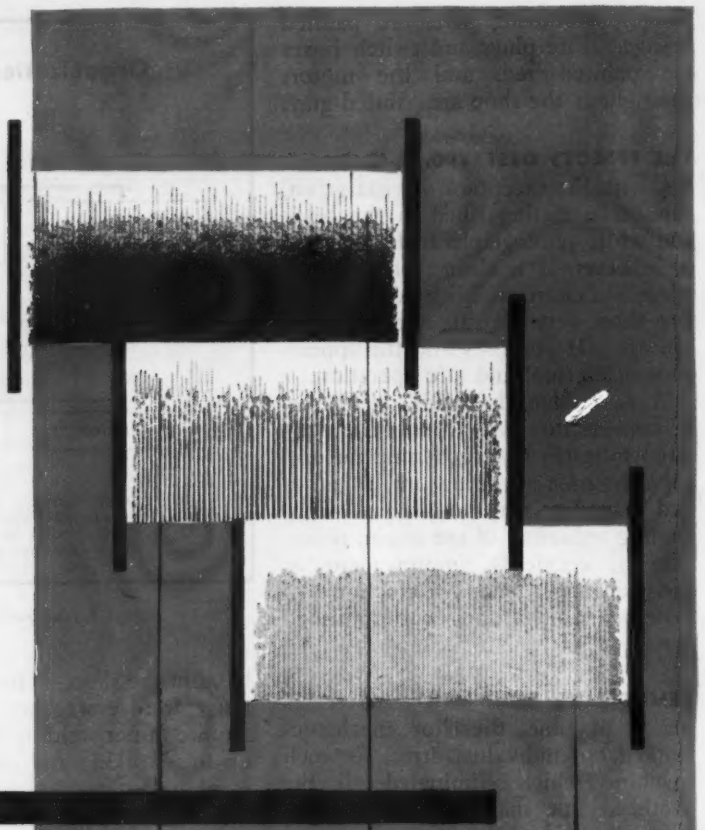
Labor Expenses

Name	S	M	T	W	T	F	S	Total	Rate	Amt.

Fig. 5. Overseers fill out a simple job-request for shop work.

ONE OF 15 DOW CHEMICALS USED BY THE TEXTILE INDUSTRY

they "tend to their knitting" and make a better yarn!



A TYPICAL DOW BATTLE AGAINST MOLD

Manufacturers bothered by mold problems may learn a profitable lesson from textile weavers.

When fabric is woven, warp yarns must be stiff to enable the shuttle carrying the filler yarns to pass through without abrasion which causes wear and possible fracture of the yarn. To make it stiff, yarn is subjected to a process called "slashing" which consists of running it through a solution containing starch and oil. Naturally, the mixture is subject to mold and bacterial attack but, in addition, yarns sized with it may also be affected causing loss in tensile strength and possible discoloring due to mold stain.

Dow technicians experimented, tested, experimented more, tested more—and presented the answer . . . Dowicide. Today, this effective product protects slashing solutions . . . better fabrics woven by the textile industry are proof of another victory in the never-ending battle against mold.

Dow technicians and specific Dowicide products are ready to fight mold wherever it rears its head—in the paper, paint, lumber and other industries. If you have a mold problem, get in touch with us.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

Dowicide

Germicides and fungicides

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

COTTON PROPERTIES

Evaluated as to Effect on Strength of Carded Yarn

In actual mill practice, the cotton classer must determine two of the more important fiber characteristics.

HIGHLIGHTS: Six factors in order of importance are: fiber strength, fiber-length variability, upper-quartile length, fiber fineness, grade, and percentage of mature fiber. Report issued by U. S. Department of Agriculture, War Food Administration, is commented upon by mill man.

COTTON MILL MEN, and others, have long wanted to know what combination of fiber properties is most desirable from the standpoint of yarn strength, which fiber property is the most important to yarn strength, which one is the least important, what is the order of rank for other contributing fiber properties, if these relationships are the same for coarse and fine yarns, and if this same basis of relationship of fiber properties is applicable to both short- and long-staple cottons.

Fairly precise answers to these questions as they relate to carded Upland cotton are contained in a U. S. Department of Agriculture bulletin issued this year. The 58-page publication is summarized here by its authors. Following the summary is a comment on the bulletin by a practical mill man.

AUTHORS' ABSTRACT. "Relationships Between Properties of Cotton Fibers and Strength of Carded Yarns," by Robert W. Webb and Howard B. Richardson, Cotton and Fiber Branch, Office of Marketing Service, U.S.D.A. and W.F.A.; pages 1 to 58; Figures 1 to 12; March, 1945.

This report completes the first segment of a broad study concerning the relationships of cotton-fiber properties to manufacturing performance and to yarn and fabric quality. Facts bearing on such relationships are of value and benefit to both cotton agriculture and the textile industry, in that they indicate to breeders those combinations of fiber properties which should be incorporated in the new varieties and strains being developed and that they aid spinners in selecting cottons needed for best results in the manufacture of various types of cotton goods.

By using multiple, partial, and simple correlation analyses, comprehensive studies have been made of the contribution of a number of cotton fiber properties, separately and in various combinations, to the skein strength of 22s and 60s carded yarn. The data used in these analyses represents 766 individually grown and tested cottons, covering a wide range of American Upland types and growth conditions.

The findings reported disclose that the properties of the raw cotton rank in order of importance to the strength of such yarns as follows: fiber strength, fiber-length variability, upper-quartile length, fiber fineness, grade, and percentage of mature fibers. A coefficient of multiple linear correlation of 0.933 was found for the relationships existing between the skein strength of 22s carded yarn and the six collective fiber properties mentioned. Eighty-seven percent of the total variance in the 22s yarn strength of these cottons is accounted for by the six fiber properties. Similar findings are obtained

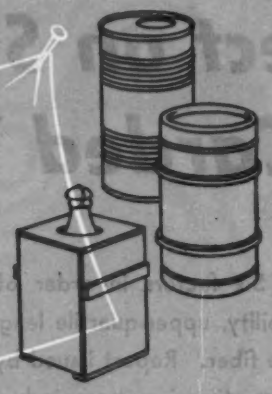
Practical Effect of Six Fiber Properties on Carded Yarn

	Yarn Numbers 22s	60s
1. Lowering cotton one grade decreases yarn strength	**1.89** lb.	**0.78** lb.
2. Increase of 1/32 in. in upper-quartile length increases strength	**0.99** lb.	**0.55** lb.
3. Increase of 1% in coefficient of length variability decreases strength	**1.94** lb.	**0.69** lb.
4. Increase of 1 microgram per inch in fiber weight decreases strength	**7.32** lb.	**3.19** lb.
5. Increase of 1% in percent of mature fibers decreases strength	**0.26** lb.	**0.15** lb.
6. Increase of 1000 lb. per sq. in. in fiber strength increases strength	**0.94** lb.	**0.28** lb.

Data given in various tables in the U. S. D. A. bulletin permit the above practical deductions to be made concerning the strength of carded 22s and 60s yarn assuming that the values of all the other fiber properties remain the same.

SPECIFY "GENERAL CHEMICAL"

for outstanding detergents, antichlors, mordants



One Source

Whatever your prime textile chemical need, you'll find it at General

Whether you work with *natural* or *man-made* fibers, the textile chemicals you use can greatly affect the color and finish of your products, as well as facilitate greater production efficiency.

For almost half a century General Chemical Company has produced a broad range of chemicals for the textile industry, combining long experience in the field with closely controlled manufacturing standards. Its valuable "know how" assures acids, detergents, antichlors, peroxide stabilizing agents or mordants of high quality, purity and uniformity. That's why you should "Specify General" for your chemical requirements.

BASIC CHEMICALS

GENERAL CHEMICAL COMPANY

FOR AMERICAN INDUSTRY

Select Your Textile Chemicals From These General Chemical Products

Aqua Ammonia • Acetic Acid • Hydrofluoric Acid Muriatic Acid • Sulfuric Acid • Epsom Salt • Glauber's Salt • Sodium Bifluoride • Sodium Bisulfite, Anhydrous Sodium Hyposulfite • Sodium Metasilicate • Sodium Silicate • Disodium Phosphate • Tetrasodium Pyrophosphate • Trisodium Phosphate • Sodium Sulfide • Oxalic Acid • Chrome Alum

GENERAL CHEMICAL COMPANY

40 Rector Street • New York 6, N. Y.

Sales and Technical Service Offices: Atlanta • Baltimore • Boston Bridgeport (Conn.) • Buffalo • Charlotte (N. C.) • Chicago Cleveland • Denver • Detroit • Houston • Kansas City • Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh Providence (R. I.) • San Francisco • Seattle • St. Louis • Utica (N. Y.) Wenatchee • Yakima (Wash.)

In Wisconsin: General Chemical Wisconsin Corp., Milwaukee, Wis.

In Canada: The Nichols Chemical Company, Limited Montreal • Toronto • Vancouver

with 60s carded yarn in tests made concurrently with the 22s yarn.

Sixty-six regression equations, involving different combinations of fiber properties, are presented and provide a tool for estimating the strength of carded yarn from only a knowledge of the magnitude of the fiber properties. Almost as high as a correlation has been found for the relationship between the skein strength of either 22s or 60s yarn and the four collective properties of fiber strength, fiber-length variability, upper-quartile length, and fineness as was obtained with the six fiber properties. With other combinations of fiber properties, the coefficients of correlation are appreciably less; and the results of simple correlation indicate relatively low or poor correlation between any one of the fiber properties and yarn strength.

The statistical values and equations presented in this paper refer only to American Upland cottons and skein strength of carded yarns. Findings from similar statistical studies using the same fiber data correlated with tire-cord strength, with tire-cord elongation, with yarn appearance, and with percentage of picker and card waste reveal a somewhat different picture with respect to over-all relationships and the relative importance of the different fiber properties. Those findings will be presented in later reports.

MILL MAN'S COMMENT. Following is a comment on this report by E. H. Helliwell. He writes, "This bulletin is about the finest thing I have seen on this subject." His more specific comments are:

A careful review of this new bulletin will prove interesting and instructive to every mill man concerned with the selection or processing of cotton.

The data collected, compiled, and analyzed are confined entirely to types of American Upland cotton, but include a wide range of commercial varieties. A total of 766 test specimens were taken from 16 varieties selected from eight locations in South Carolina, Mississippi, Arkansas, Oklahoma, Texas, and Louisiana.

Classifying, testing, analyzing, and compiling data from 766 specimens involved a tremendous amount of detail work and we fully appreciate the painstaking labors of the technologists responsible for it. We also realize our good fortune in having this valuable data made available to all who are interested.

We must also realize that it would be an impossible task to use the same care and precision in selecting the cotton for a mill using one thousand bales or more per week.

It is at this point that the practical mill man realizes he must sacrifice part of the precision of bale selection, which he may so earnestly desire. What part and how much should he sacrifice for the economy and practicability of operation?

The relative number of mills that attempt complete laboratory control of their cotton purchases and mixes is very small; so the real question is, "How far would it be practical and profitable to extend control of cotton quality and yarn strength?"

It is absurd to expect that any cotton classer, no matter how astute, could replace the laboratory instruments required in the exact determination of cotton properties. Confining purchases to one growth, district, shipper, or broker will not guarantee either the quality or the uniformity of the cotton received.

It will prove profitable to consider here the important fiber qualities in their proper order and determine which, if any, must be omitted in a practical operational evaluation of cotton quality.

1. Grade. This can be easily and closely determined by any experienced classer with the aid of the government standard grade boxes for comparison as to leaf, color, and preparation. The effect of grade on yarn strength as shown on the tests of both 22s and 60s yarns indicates that the character of the cotton must be given important consideration.

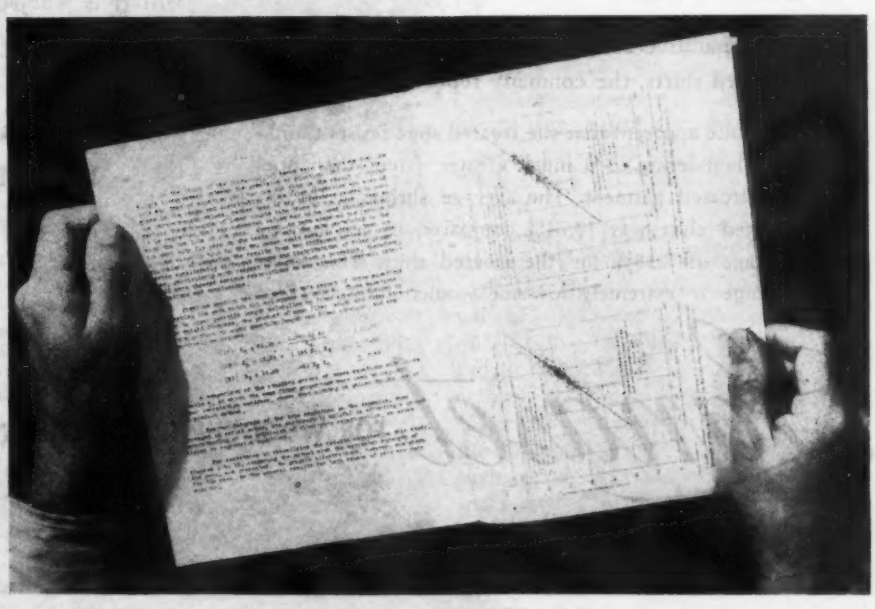
2. Upper-quartile length. The classified length precisely determined by an experienced classer is a suitable substitute for all practical purposes in bale selection.

3. Coefficient of length variability. A fiber array is necessary for obtaining this value. Better and more rapid methods of obtaining fiber-length values than by the drop-comb method are now available. Mean fiber length can be quickly determined, and actual mill tests over extended periods prove that this is a better practical comparative value than either (or both) upper-quartile length or coefficient of length variability in predicting warp yarn strength.

4. Fineness of fiber. This is an exact laboratory determination and would probably have little practical application to a weekly production of one thousand bales of cotton. A qualified classer's judgment is sufficient control over this property. While he may not be able to express its value in micrograms per inch, he can detect abnormally coarse-fibered specimens; and his past experiences teaches him that a loss of yarn strength can be expected from such cotton.

5. Percentage of mature fibers. Results from the tests as shown in the bulletin indicate that this property is generally very much over-rated in its effect on yarn strength. When the determination of this value is deemed essential, the polarized-light method can be used.

6. Strength of cotton fiber. The trend in mills when exact fiber strength is required is to use the Pressley flat-bundle method. These values can be easily converted to pounds per square inch. The mill classer in actual practice will have to be satisfied with three general classifications of fiber strength —weak, normal, and strong. He will find that cotton which he classes as normal strength will not cause loss of yarn strength due to weak fiber.



Report is presented in 58-page bulletin which can be obtained from the War Food Administration, Office of Marketing Services, Cotton and Fiber Branch, Washington 25, D. C.

The photograph below shows two LANASET-treated shirts. The top shirt has been laundered five times in ½% soap solution at 100° F. Each washing included ten minutes in the soap solution plus a five-minute and a one-minute rinse, between each laundering the shirt was taken out of the washing machine and dried.

U. S. TESTING COMPANY REPORTS ON *Lanaset*

New "washability" for wool sport shirts — when treated with LANASET*, the new product for controlling wool shrinkage — is clearly indicated by the results of tests made by the U.S. Testing Company under Test Number 60171 on January 5, 1945.

After comparative tests of LANASET-processed and unprocessed shirts, the company reports:

"It is quite apparent that the treated shirt resists shrinkage in laundering to a much greater extent than does the untreated garment. The average shrinkage of the untreated shirt was 10.74% compared to an average shrinkage of 3.18% for the treated shirt. This latter shrinkage is extremely low for woolen fabrics which have undergone five laundering treatments and we consider the change as being very low and indicating good serviceability from the viewpoint of shrinkage reactions."

LANASET is now available to mills and finishers for plant runs (subject, of course, to current W. P. B. rulings). Doesn't it have a place in your line?

AMERICAN CYANAMID COMPANY
TEXTILE RESIN DEPARTMENT
BOUND BROOK, NEW JERSEY
New York · Boston · Philadelphia · Providence
Charlotte · Chicago

Lanaset **FOR WOOL SHRINKAGE CONTROL THAT LETS THE WOOL BREATHE**

*LANASET is American Cyanamid Company's trade-mark covering its melamine resin for controlling wool shrinkage. The process under which it is applied is covered by United States reissue Patent No. 22,566.

Spectrophotometer Permits Accurate COLOR MEASUREMENTS

HIGHLIGHTS: Machine will analyze both color and chemical solutions quantitatively. Color matcher and chemist now provided with a precison tool. Spectrophotometric curves become permanent records. Can be used for both reflectance and transmission samples.

By HARRISON JOHNSTON
Special Products Division, General Electric Co.

FOR CENTURIES man has been able to measure weight, distance, and time—the simple quantities—but it was not until the development of the electronic tube that he was able to measure accurately that complex quantity color. Electronic tubes, the phototube, the amplifier tube, and the thyratron tube have made the photoelectric recording spectrophotometer possible.

The photoelectric recording spectrophotometer is a precision laboratory instrument for automatically and accurately measuring and recording color. With it, measurements can be made of the color of reflecting materials, such as textiles, paints, and paper, or of transmitting materials, such as glass, filters, and solutions. Reflectance measurements can be made either to include or exclude the specular (gloss) component. As a measuring instrument, it is equally useful in the industrial laboratory for controlling the color of paints, dyes, glass, and inks, as well as in chemical laboratories for analysis.

APPLICATIONS. The spectrophotometer, which has been adopted by the American Standards Association as the basic color measuring instrument, is an important industrial electronic tool. Some of its many applications follow:

Color Matching. In color matching, it is important that matched colors appear alike to all observers, under any lighting condition. To accomplish this, an accurate measurement of the color of a sample is necessary. The spectrophotometer allows color to be matched by giving an accurate measurement, which is independent of the psychological and physiological factors which affect human judgment.

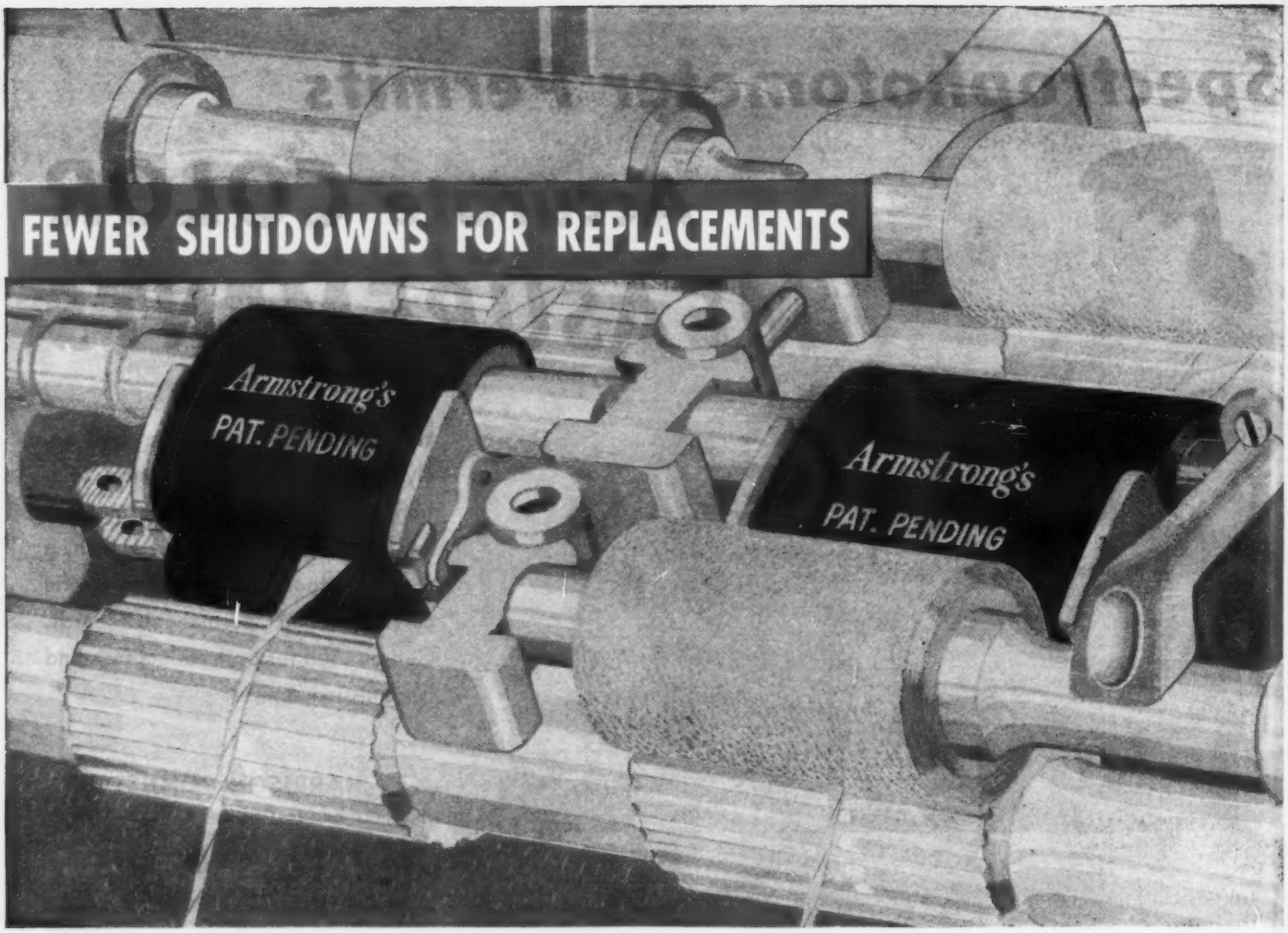
Mixing Pigments. In mixing pigments for inks and dyes, it is often necessary to know which pigment should be added to the original mixture to obtain the desired color. The spectrophotometric curve gives an analysis of the color from which an experienced technician can determine the pigment to be added. With the spectrophotometer, the individual pigments can be analyzed and the necessary corrections made in their quantity, to offset differences in their properties. Thus, the color of the mixture can be controlled during the blending process, and exact matching of a previous mixture can be obtained. In addition, by recording the color of the individual pigments, the control laboratory can accurately predict the quantity of pigments required for each color desired. The spectrophotometer, by analyzing the color, eliminates guesswork in color composition. It allows the technician to measure the effects of various components and thereby exercise fine control over the mixing and blending process.

Chemical Analysis. For chemical analysis, the spectrophotometer provides the chemist with a precision tool which allows him to make precise quantitative measurements. It allows him to use his colorimetric methods of analysis with assurance and accuracy.

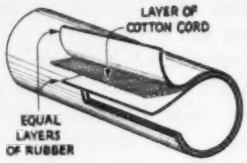
Since the spectrophotometer records the transmission of the solution for each wavelength of light in the visible spectrum, the chemist can select a particular wavelength for comparison. The human eye, on the other hand, integrates the light over the entire visible spectrum; and interfering colors are often present. Precise measurement

For Permanent Color-Recording or Comparison

EVERY COLOR, however complex or simple, can be accurately recorded by a curve on graph paper as described in the accompanying article. The percentage of reflectance plotted against wavelength of light presents graphically the proportions of the visible spectrum which are present in the sample under test. The visible spectrum covers wavelengths from 400 to 700 millimicrons in length, or from violet to red through the various changes that are familiarly seen in the rainbow. A curve approaching a horizontal straight line would describe white; a curve which had a definitely peak around 470 would describe a bluish color, one peaking around 610 would be orange. —EDITOR.



. . . because these aprons WEAR UNIFORMLY



YOU won't have to shut down your machines to replace individual worn, scuffed, or cracked aprons when you set up your spinning and roving frames with Armstrong's Accotex Long Draft Aprons. Barring unusual mill accidents, each Accotex Apron will give you uniformly good service for a uniformly long period of time. The reason is that the tough synthetic rubber composition of Accotex Aprons is exactly alike in every apron. Each one is homogeneous throughout. Dimensions of every size are accurate.

Moreover, the special seamless construction of Accotex Aprons—with a sturdy cord interliner sandwiched between two equal layers of synthetic rubber—provides added assurance that they will not tear, break open, or stretch during operation.

In addition to these important features, Accotex Aprons offer the following operating advantages . . .

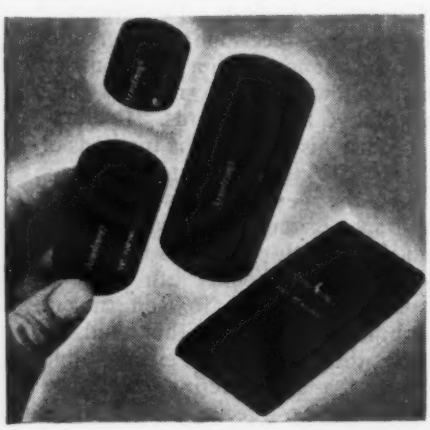
LONG LIFE: Accotex Aprons in continual service for more than three years show little sign of wear.

CLEAN-RUNNING WORK: Accotex Aprons do not crack or scuff. Thus they insure cleaner-running work.

REDUCED LAPPING: Accotex Aprons are not affected by changes in either temperature or humidity. They perform with a minimum of lapping.

GOOD FRICTION: The efficient "grip" of Accotex Aprons keeps slippage at a minimum.

For more information on how Accotex Aprons can help you spin higher quality yarn, see your Armstrong representative. He will gladly give you samples and prices. Or, write Armstrong Cork Company, Textile Products Dept., 8305 Arch St., Lancaster, Pa.



ARMSTRONG'S ACCOTEX APRONS

CORK COTS • ACCOTEX COTS

can be made with the spectrophotometer when accurate visual comparison is difficult or impossible. This is illustrated in Fig. 1. At 400 millimicrons, all four curves coincide; but at 480 millimicrons, separation occurs. These colors, which are easily separated by the spectrophotometer, would be difficult to distinguish by the eye.

In Fig. 2 are shown three curves of different peroxy-acid solutions which appeared to be the same color to the human eye. The spectrophotometric curves tell the chemist, however, that solution 1 contains molybdenum; solution 2, vanadium; and solution 3, titanium. In this case, the spectrophotometer was able to provide the chemist, in a few minutes, with an analysis which by other methods would have required considerable time, probably hours.

The spectrophotometer will detect the presence of very small quantities of materials in solution. In addition to making measurements of colored solutions, the spectrophotometer can also be used for measuring suspensions of solids in solution.

Measuring Gloss. For measuring gloss, curves can be made which include and exclude the specular component of the light reflected by the sample. (Specular reflection refers to light reflected in a beam, as by a mirror.) In Fig. 3 the difference in height between the two curves may be regarded as a measure of the gloss of the surface. Provisions are made in the integrating sphere for including or excluding the specular component in the measurement.

Color Standardizing. For color standardizing, it is essential to establish a standard which remains unchanged from year to year, and which can be readily reproduced. Since colors fade with age, it is impractical to use the original sample as a standard. The curve produced by the spectrophotometer, however, is a standard which remains unchanged by time or use and which can be reproduced in the form of a blueprint or photostat.

Specifying Color. For specifying color, the spectrophotometric curve is a complete, unchanging description. It is an exact specification which is not affected by fading or discoloration. It can be distributed widely, with assurance that all copies will remain unchanged.

The spectrophotometer can be used whenever it is desired to measure color (400 to 700 millimicrons). It produces an accurate pen-and-ink record of reflectance (or transmission) vs. wavelength of light, and thereby gives an analysis of the fundamental color characteristics of the sample measured.

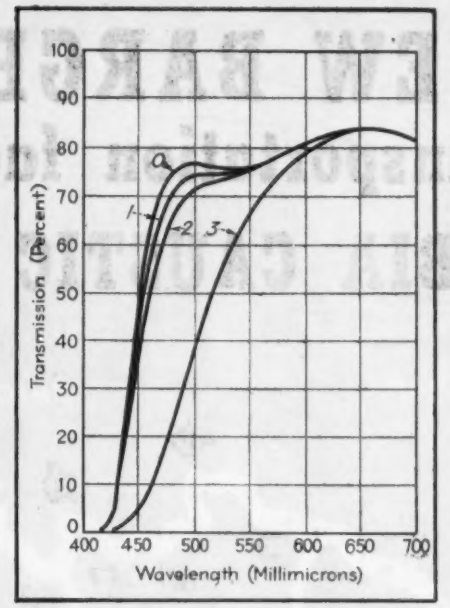


Fig. 1. Curves showing the spectrophotometric determination of titanium in the presence of iron. The upper curve shows the transmission of a ferric sulphate solution containing hydrogen peroxide and 100 milligrams of iron in 25 cc.; the remaining curves show the transmission changes when different amounts of titanium are added to this solution.

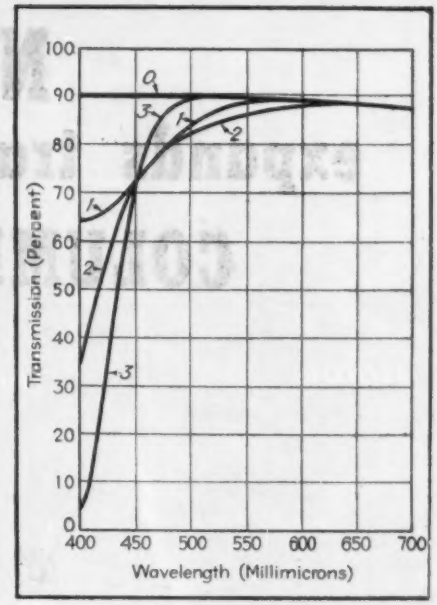


Fig. 2. Transmission curves for peroxy-acid solutions containing molybdenum, vanadium, and titanium. The solutions were so adjusted that to the eye all three seemed identical, but to the spectrophotometer they were distinguishable as shown.

Figs. 1 and 2—Courtesy of J. L. Michaelson and Dr. H. A. Liebhafsky.

DESCRIPTION OF INSTRUMENT. The spectrophotometer (Fig. 4) consists of an incandescent light source which radiates light of all wavelengths in the visible spectrum (400 to 700 millimicrons), a double prism monochromator which disperses this light into a spectrum and selects monochromatic light from this spectrum, a flicker system for shining the monochromatic light alternately on the sample and a standard, a phototube and associated amplifier circuits, and a recorder for making a pen-and-ink record of the measurement.

The optical system and recorder are mounted on a flat steel plate with the power supply, phototube amplifier, and thyratron stages directly below. The site and shape of the spectrophotometer makes it suitable for table mounting (see headpiece).

The light source is a standard screw-base projection lamp which

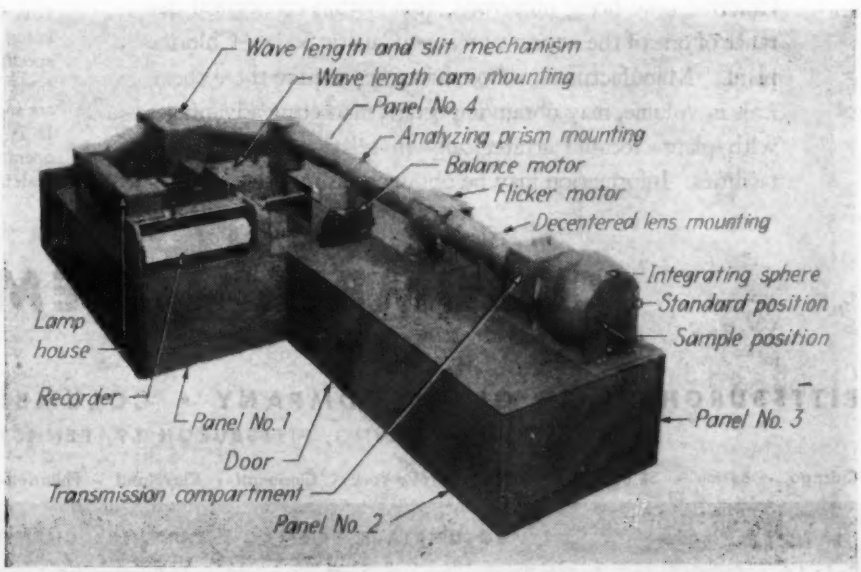
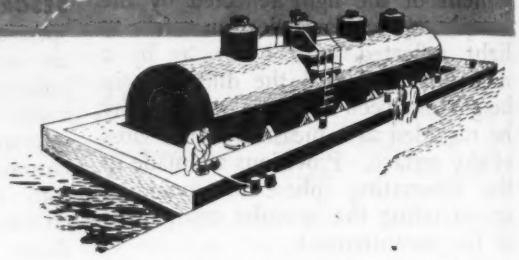


Fig. 4. Recording photoelectric spectrophotometer. Oblique front view (from above) with parts named.

NEW BARGE
expands transportation facilities for
COLUMBIA CAUSTIC SODA

PIONEER in better transportation of heavy chemicals, Columbia now has in service a barge designed specifically to carry Liquid Caustic Soda. Each trip it makes releases many railroad tank cars—of utmost importance in serving the diversified war industries which are dependent on this chemical.

Columbia's barges for transporting Liquid Caustic and Chlorine now bring numerous areas within economical distance of one of the nation's greatest Caustic Soda—Chlorine plants. Manufacturers, whose processes require these chemicals in volume, may obtain important marketing advantages with plants located strategically in relation to our barge facilities. Information may be obtained on request.



Approximately 500 tons of Caustic Liquor can be transported in the huge welded steel tank of this 135-foot barge. Foamglas insulation protects the Caustic from freezing—a special lining prevents metallic contamination en route. Numerous other unique features are incorporated in the design of this barge. It is now in service from the Columbia operated DPC plant on the Ohio River at Natrium, West Virginia.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY • COLUMBIA CHEMICAL DIVISION

GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

Chicago • Boston • St. Louis • Pittsburgh • New York • Cincinnati • Cleveland • Philadelphia • Minneapolis • Charlotte • Los Angeles

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash • Caustic Soda • Sodium Bicarbonate • Liquid Chlorine • Silene EF (Hydrated Calcium Silicate) • Calcium Chloride • Soda Briquettes
Modified Sodas • Caustic Ash • Pluoflake • Calcene T (Precipitated Calcium Carbonate) • Calcium Hypochlorite

operates from 6 volts, drawing 18 amperes. The monochromator is a double-prism type which passes a constant wavelength band of 10 millimicrons throughout the entire visible spectrum from 400 to 700 millimicrons. The flicker system consists of three polarizing prisms, one of which, a Rochon prism, is so mounted inside the hollow shaft of an 1800-rpm. synchronous motor that it throws the light alternately on the standard and the sample 60 times per second. The transmission sample holder will accommodate samples approximately 3 cm. in diameter and 5 cm. long.

The integrating sphere (Fig. 5) contains the holders for both the sample and the standard. The area of the sample which is measured is a circle 1 in. in diameter, the size of the porthole in the sphere for the sample. Two more portholes are provided in the front of the integrating sphere at the points to which the specular components are reflected by the sample and standard. One set of white and one set of black inserts are provided for including or excluding this specular reflection of the sample. The phototube used in the spectrophotometer is the Type PJ14B, which is specially designed for wide spectral response and sensitivity.

The amplifier and power stage are well stabilized and filtered to provide the high gain required and still to reduce pick-up from stray electric fields or power apparatus. The entire spectrophotometer operates from 115 volts, 60 cycles, a.c., and requires about 400 watts.

The recorder is a revolving drum on which the wavelength scale (around the drum) is $6\frac{7}{8}$ in. long; and the reflectance (or transmission) scale, along which the pen moves, is 10 in. long. The pen is driven by the "balance" motor, while the drum is driven by the wavelength scanning motor. The normal time for recording a curve is $2\frac{1}{2}$ min. A low speed, which gives a curve in 5 min., is also provided and is used for curves with steep slopes.

The photometer cams govern the movement of the pen. With one cam, full scale represents 100% reflectance (or transmission); and with the other cam, full scale represents 20% reflectance (or transmission). The cam can be changed readily by sliding the cam sleeve to the proper position.

Other cams for plotting density 2.0, density 2.5, full scale, or log density—between the values −0.5 to +2.5—are also available.

OPERATION OF INSTRUMENT. The operation of the spectrophotometer is

(Continued on page 182)

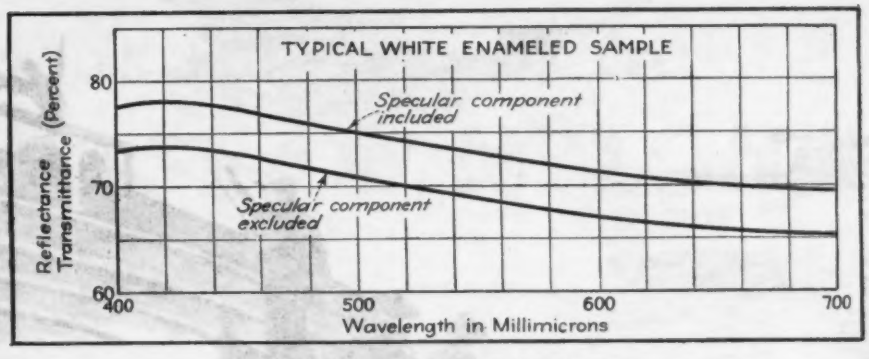


Fig. 3. Measurement of surface gloss.

Fig. 5. Specular integrating sphere for recording spectrophotometer. Top view with parts named.

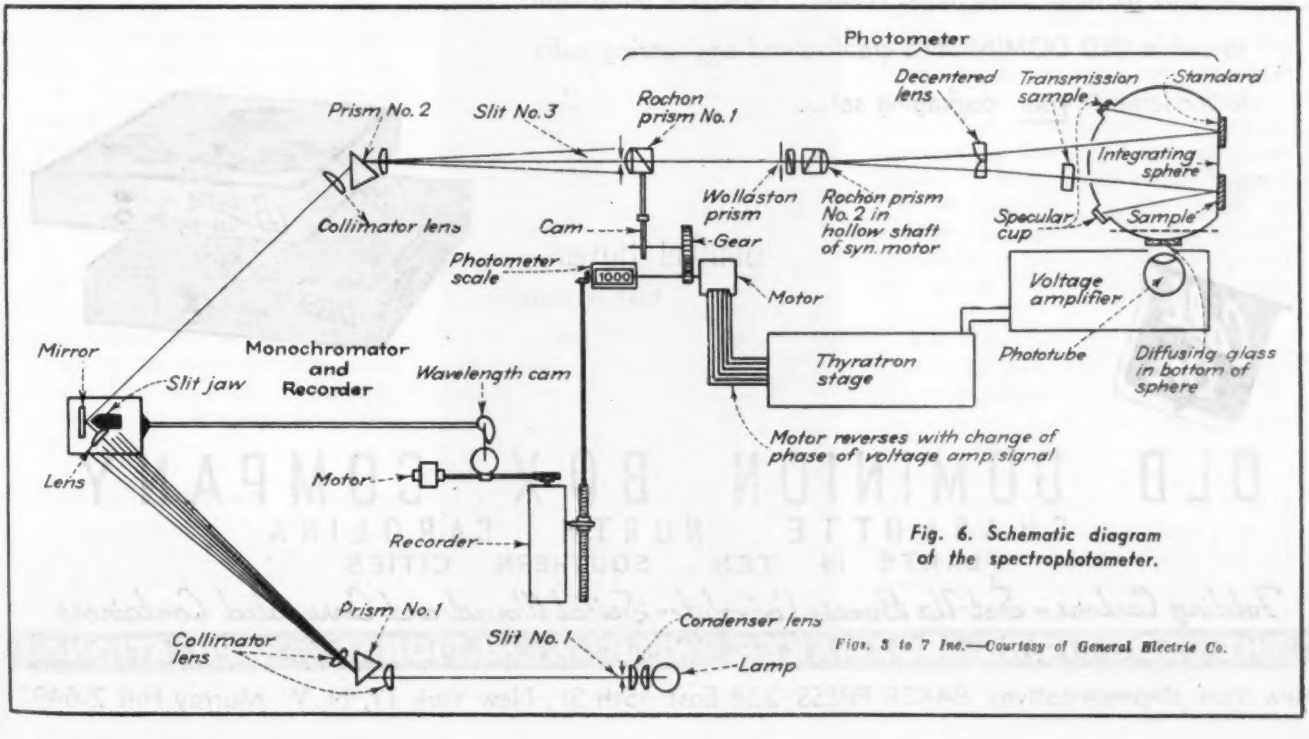


Fig. 6. Schematic diagram of the spectrophotometer.

Figs. 5 to 7 Inc.—Courtesy of General Electric Co.

Outmoded... OUTDISTANCED

WAR-TIME improvements in packaging materials and techniques have paralleled the advances made in our methods of warfare.

Many prewar packages will become obsolete and outmoded as soon as sales competition returns. Now is a good time to call in OLD DOMINION'S creative and engineering staffs to modernize <u>your</u> packaging set-up.

Blanket Boxes
THAT ARE DIFFERENT

Call On

OLD DOMINION BOX COMPANY

CHARLOTTE, NORTH CAROLINA
PLANTS IN TEN SOUTHERN CITIES

Folding Cartons • Set-Up Boxes • Convolute • Spiral Wound and Corrugated Containers

"THE SOUTHERN BOXMAKER WITH A NATIONAL REPUTATION"

New York Representatives, BAKER PRESS 228 East 45th St., New York 17, N. Y. Murray Hill 2-6492

High Standards Important to Success of NO-SEAM NYLONS

HIGHLIGHTS: Thermo-setting property of yarn may elevate women's circular hosiery to acceptance in higher price bracket. Some misconceptions held.

MANY OF THE HOSIERY manufacturers who are planning to produce no-seam nylons after the war have not had any previous experience with circular knitting. They have looked upon the circular machine as one producing an inferior product at low cost for a market which, even if they had a desire to cultivate it, was below their price reach. As a result they have failed to study thoroughly many of the distinctive characteristics of the circular machine.

One of the popular misconceptions with respect to circular knitting is the belief that the machine has no means for shaping the product because all needles in the knitting circle remain in action throughout the stocking—save in the heel and toe—and that the hose, therefore, is knit as a straight tube without true conformation to the natural contour of the leg. The appearance of the stocking in the gray as it drops from the machine is partially responsible for this misunderstanding. The circular method of knitting does not permit the placing of tension on the knitted fabric by a take-up; and therefore there is no way to exert a lengthwise tension on the fabric and thus automatically demonstrate that a stocking does have a shape knit into it. However, examination of the circular hose by means of a hand inserted inside makes clear that the fabric tube is narrower at the ankle and foot than at the upper portion of the stocking. The following explanation shows how this shaping is accomplished.

SHAPING OF STOCKING. The strain put on the welt of the stocking when it is drawn on the limb and gartered makes it desirable to use a heavier yarn in the stocking top than in the leg, with a necessarily looser stitch. The result is a welt fabric circle which is not only stronger than the leg fabric but also larger in diameter. With the correct stitch and yarn weight, the welt fabric is both clear and elastic.

A proportionately tighter stitch with lighter yarn is customarily found in the afterwelt. In the boot or leg, a yarn of still finer denier is introduced with a relatively tighter stitch, the fabric circle at this point contracting directly after knitting in keeping with the usual proportions of the leg just above the knee. The same weight of yarn is employed throughout the leg and foot except for the heel and toe pockets.

When the knitting reaches the calf, the stitch is gradually tightened on an ever-increasing scale, by a lowering of the cylinder, until that portion of the stocking corresponding to the ankle—which is the narrowest dimension of the stocking—has been formed. The stitch-tightening steps are imperceptible to the eye, there being approximately 100 gradations from the calf stitch to the ankle stitch; and when the stocking is on the leg the points of change in the fabric are not apparent. The balance of the stocking is knit with a compact stitch the same as in the ankle—save in the heel and toe, where a heavier yarn is employed for durability with a somewhat looser stitch to accommodate the bulkier yarn.

No-seam nylon hosiery is pre-boarded to permanent shape.

NYLON ADVANTAGES. The circular machine for many years has had the ability to shape the stocking in knitting, but its biggest problem has been to have the hose retain its shape through the many launderings during its life. The use of nylon yarn, with its setting characteristics in the pre-boarding operation, permits a desired shape to be fixed permanently in a correctly knit stocking.

Furthermore, the great strength of nylon yarn has enabled the hosiery mills to use such fine deniers that many more needles can now be employed in the knitting circle. The use of fine yarns is said to result in greater fabric contraction than formerly, and this contraction improves the fit at the ankle and other narrow portions of the stocking. The tendency of nylon to contract slightly in the pre-boarding operation is considered to be another aid to obtaining good fit in fine-gage hosiery.

MACHINE GAGE. Some knitters have been puzzled as to what to call the gage of a circular-knit stocking. The truth of the matter is that the word "gage" is a machine term. When used without accompanying data on the total needles employed and the width given to the finished fabric, machine gage is not a thoroughly reliable indicator of the fineness of any fabric, no matter by what means it was knitted. To be specific, "hosiery gage" is merely a figure indicating the number of needles in 1½ in. of the needle bed on which the hosiery has been produced.

Therefore, since the machine which is expected to be used most commonly for no-seam nylons—employing a 3¾-in. cylinder and 400 needles—has 51.79 needles per 1½ in. (allowing for the depth of the needle slot), its machine gage is almost 52. If we should try to interpret this machine gage in terms of the fineness of the finished stocking, the closest we could come to it would be to say that it varies from some 42 or 43 in the welt to some 57 or 60 in the ankle. If only for the sake of simplifying explana-

(Continued on page 192)

The light is always green at POWELL

At Powell, scientific study, research and experimentation *never* STOP. That's why Powell Engineering has always been able to solve the intricate flow control problems imposed by new products and processes.

Add to this our non-stop application of lessons learned through 99 years of practical experience and you have the Powell Line—a complete line of valves of every type and material needed to satisfy all flow-control requirements of industry today. And tomorrow, as new demands arise, there'll be Powell Valves to meet them.

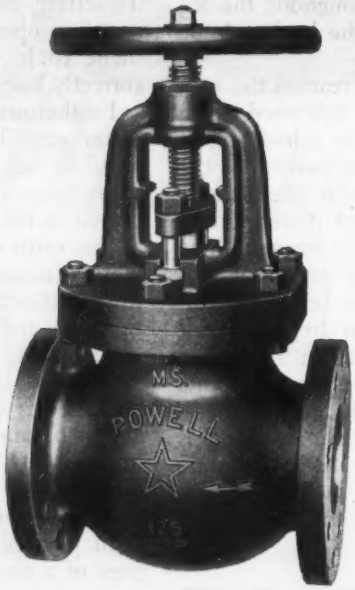


Fig. 241—Iron Body Bronze Mounted Globe Valve for 125 W. S. P. Has flanged ends, outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc.

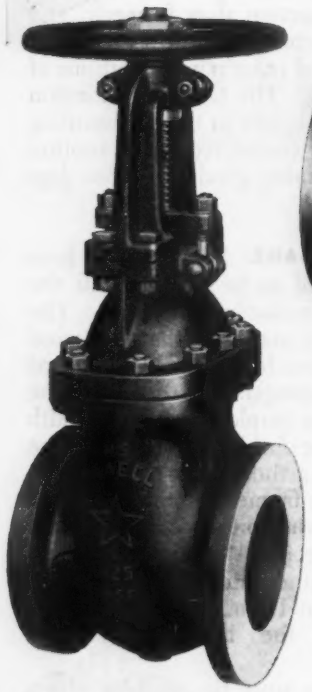


Fig. 1793—Iron Body Bronze Mounted Gate Valve for 125 W. S. P. Has flanged ends, outside screw rising stem, bolted flanged yoke and taper wedge solid disc. Also available with taper wedge double disc—Fig. 1444.

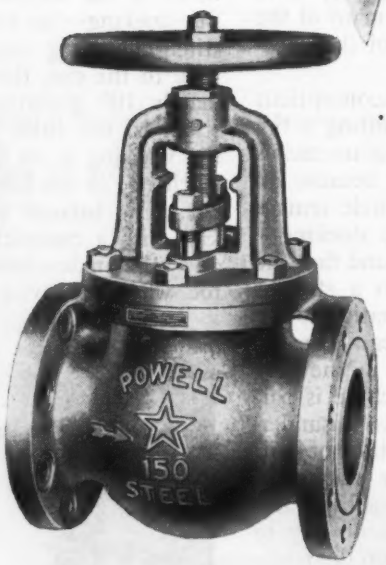


Fig. 1531—Class 150-pound Cast Steel Globe Valve, with flanged ends, outside screw rising stem and bolted flanged yoke.

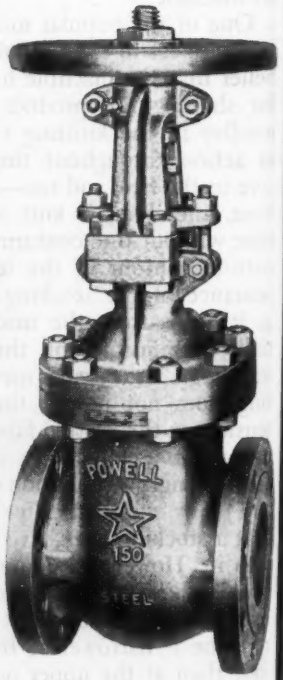


Fig. 1503—Class 150-pound Cast Steel Gate Valve with flanged ends, outside screw rising stem, bolted flanged yoke and taper solid wedge.

The Wm. Powell Company

Dependable Valves since 1846

Cincinnati 22, Ohio

POWELL VALVES

KEY EMPLOYEES DEVELOPED by Conference Method

HIGHLIGHTS: Full-time "outside" conference leader preferred to one from group. Movies and slide films used as background material for conferences. Key employees helped by conferences on their problems. One group organizes a club to continue conference discussions. Chief advantage of conference method is upgrading of foremen.

By LOUI GREET
Vocational Director, Parker School District

THAT THE USE of the conference method in the up-grading of supervisors has distinct advantages is again being demonstrated in Greenville County, South Carolina. A full-time conference leader has been employed and is kept busy holding conferences at the thirty-odd textile plants there.

CONFERENCE ORGANIZATION. The foremanship-training program in Greenville County is sponsored jointly by the State Board for Vocational Education, the Greenville County legislative delegation, and the Parker School District. They feel that the use of the conference method is much more effective than the hiring of an outside "expert" to come in and lecture or give a text-book course on foremanship. With the method in use, supervisors are thinking about the actual problems that are confronting them daily, and not about hypothetical problems that may have bothered some one else at some time.

The conferences consist of a series of ten two-hour meetings, usually held at the rate of two per week. The groups, consisting of from ten to fifteen members, are made up of overseers, foremen, or second hands. It has been found best to have all conferees from one supervisory level. This encourages freer discussion, since all members feel more at ease. Also, it has been found advisable, where there are enough supervisors on the same level to make up a group, to confine the membership to a common employer. In this way a homogeneous group can confine its discussion to problems peculiar to its organization.

CONFERENCE LEADING. The conference leader, W. W. Foster, has had special training in the methods of conducting meetings of this kind, plus years of experience working in textile plants. At his first meeting, he makes it plain to the men seated around the table that he is not there to try to tell them how to run their jobs, but to get them to tell one another what they know from experience about the problems that will be discussed. He also makes it plain that the meetings are to be informal and that any member may disagree with any other member at any time, just so long as he "sticks to the subject."

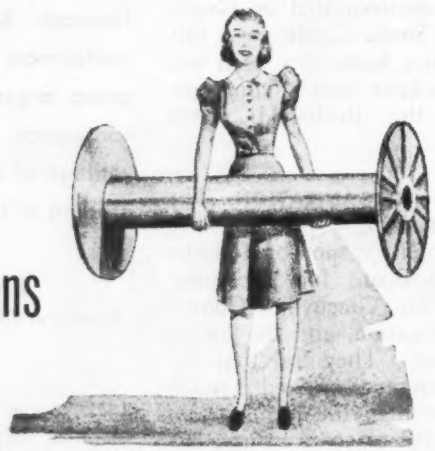
The first two-hour meeting is usually taken up with the listing of the problems of the group. As each conferee tells what his problem or problems are, the leader writes them on the blackboard. This list usually builds up to twenty or more problems before the meeting is over. A typical list of problems is: (1) absenteeism, (2) handling inexperienced help, (3) smoking and canteen abuses, (4) how to keep help watching the work all the time, (5) how to keep workers interested in their jobs, (6) how to get people to work on time, (7) how to handle grievances, (8) best method to use in approaching a person who has done his job wrong, (9) how to get better quality, (10) how to keep costs and waste down, (11) how to handle women, (12) how to get bet-

(Continued on page 188)

Group of key men in the Greenville, S. C., area conduct a conference on their problems with the help of W. W. Foster, the Parker District's full-time conference leader.

wear and tear goes out when magnesium goes in

—and the metal of motion speeds textile operations



Magnesium is "made to order" for the moving parts of textile machinery. Its light weight—a full third less than that of aluminum—means low inertia . . . and that means smooth, high-speed operation with less vibration.

Better still, the strength and stability of alloyed magnesium parts cut wear and tear and eliminate the high maintenance costs caused by frequent failure of some non-metallic parts.

The textile industry is thoroughly familiar with the importance of these factors in machine parts —especially in those requiring intermittent or reciprocating movements at high speeds. Magnesium is the answer: weaving, knitting, spinning, twisting and winding operations alike benefit from the Metal of Motion.

If you want detailed technical information on the advantages of magnesium in textile operations, get in touch with Dow, pioneer producer and fabricator of this lightest structural metal.

DOWMETAL

magnesium

THE METAL OF MOTION

MAGNESIUM DIVISION, THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

Precision Winding Depends on WIND, LAY, and GAIN

HIGHLIGHTS: Gain mechanism determines head wind or after wind. Former preferred by majority of mills. Lay is of greatest importance on coarse yarns.

By RAY C. PILLSBURY
Universal Winding Co.

TO UNDERSTAND some of the technical aspects of precision winding, the exact meaning of terms used should first be clear.

Wind—the number of complete convolutions made by the yarn on the package as it is being wound from one end of the traverse to the other. On a "precision" winding machine, when the spindle which revolves the package is positively driven, the number of convolutions is the same at any diameter of the package. *Wind* is actually the physical evidence of the relationship between the speed of the positively-driven spindle and the speed of the cam; the number of *winds* is the number of convolutions which occur during one-half revolution of the cam.

Lay—the relationship between the location of one series of convolutions and those occurring the next time the yarn is traversed in the same direction. *Lay* is observed on the package as the spacing between adjacent convolutions.

Gain—the deviation from a theoretical *wind*, produced by adjustment of the gain mechanism on the winding machine.

GAIN MECHANISM. Each revolution of the cam causes the thread guide to make one full traverse forward and backward, to distribute the yarn spirally around the container, and to cross over the yarn and bind previous layers in place. If the speed ratio of the cam to the winding spindle were exact—as for example the cam revolving exactly one-sixth as fast as the spindle—then each series of convolutions of yarn would always be laid directly on top of the previously wound series on the package; thereby it would pile up and make an undesirable and probably unusable cone or tube.

For this reason, the gain mechanism is provided. It changes the ratio just enough so that each consecutive series of convolutions will fall to one side of the previously laid series.

Head wind exists when the actual speed ratio of the cam to the spindle is under the theoretical ratio. Each series of convolutions is laid ahead of the previous series; and, as in Fig. 1, the yarn is reversed at the end of the traverse before it crosses the previous turn or "knuckle." For example, if the shaft pulley which is intended to produce three winds is used, but only 2.98 yarn convolutions develop, head wind occurs. It is identified by the V created by the apexes of the top layers of angles pointing down toward the thread guide, as in Fig. 2.

After wind is the converse of head wind. When the actual speed ratio is over the theoretical ratio, each layer of yarn will be laid after the convolutions of the previous layer and, as in Fig. 3, will cross the previous "knuckle" before reaching the end of the traverse and making its own turn. For example, if 3.02 yarn convolutions develop when the theoretical number of winds is three, then after wind will occur. In this case, the V points up away from the thread guide, as in Fig. 4.

There are two types of gain mechanisms, each of which controls wind, lay, and gain:

Gear Gain. This mechanism is fixed and exact; any given gear train will produce only one number of winds and one lay of yarn. Any change of wind or lay requires a change of gears. However, because the settings are uniform and fixed from spindle to spindle, packages produced with this mechanism are uniform.

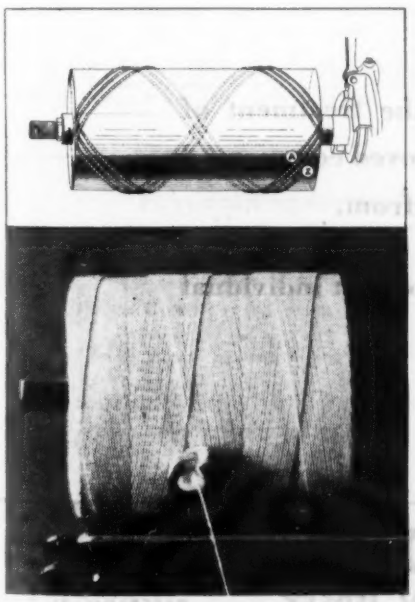
Most gear trains are developed to produce an "open" wind—that is, each successive series of convolutions is spaced somewhat apart from the previous series, so that the succeeding coils are not adjacent. It is difficult in this case for the eye to determine whether head or after wind exists.

Gear gain is advantageous for fine yarns, and most filament rayon is wound in this manner.

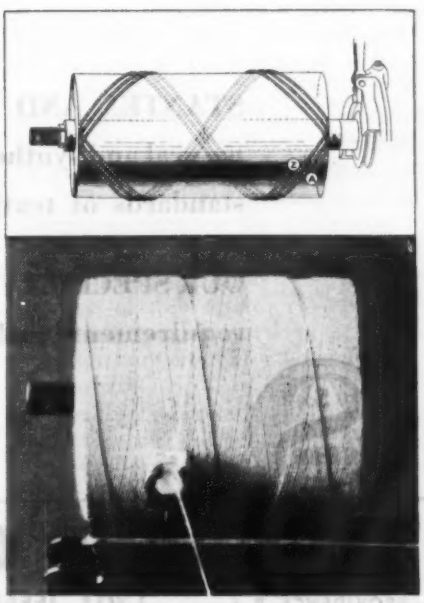
Belt Gain. When the belt gain mechanism is used, the wind is governed by the diameter of the shaft pulley; but the *lay*—or relationship between two successive series of yarn convolutions—may be varied by expanding or contracting the gainer pulley to produce either an "open" or "closed" wind.

The belt-gain mechanism is used when yarn must be carefully and compactly wound in order to obtain the

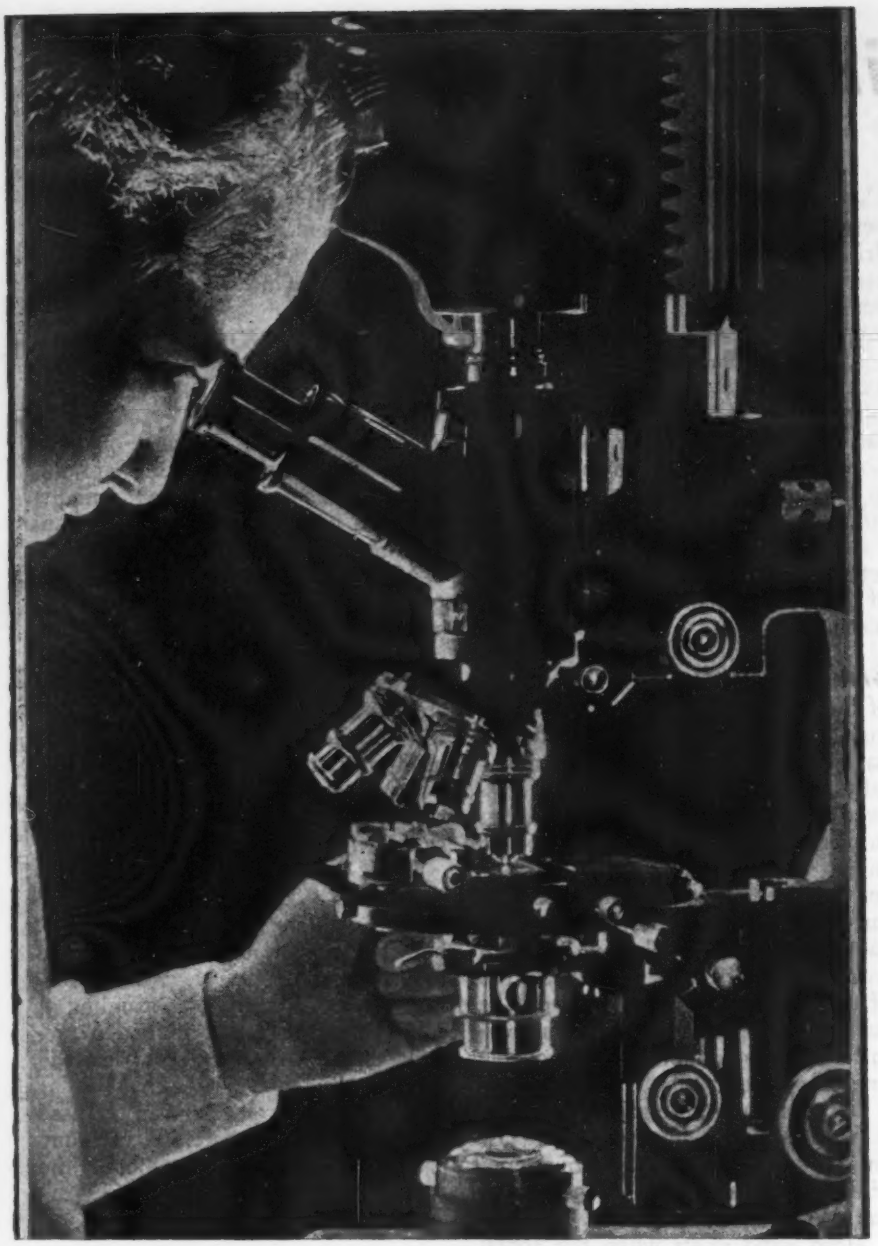
(Continued on page 186)



Figs. 1 and 2.
Diagram and photograph of head wind.



Figs. 3 and 4.
Diagram and photograph of after wind.



REPRESENTING THE FINEST CONTROL IN THE DEVELOPMENT OF ALL OUR PRODUCTS

"Stantex" Coning Oils

Stanteosine Softener—for piece goods finishing

"Standapol" and "Stantex"—finishing, sizing and throwing oils

"Lanafin" Size No. 72 (water soluble)

"Stantex" 629 Static Inhibitor

"Lanafin" Soaps and Oils

Pyrotex—for boil-off and dyeing

"Stantex" 3005 Finish (Staple Fibers)

STANTEX AND STANDAPOL PRODUCTS for the treatment of natural and synthetic fibers resulting in highly improved commercial standards of textile products manufactured therefrom.

OUR SPECIALTY is the manufacture of products to meet individual requirements and plant conditions.

STANDARD CHEMICAL PRODUCTS, Inc.

PROVIDENCE, R. I. HIGH POINT, N. C. **1301 JEFFERSON STREET, HOBOKEN, NEW JERSEY** CHATTANOOGA, TENN. SACRAMENTO, CAL. PATERSON, N. J. ANDOVER, MASS.

NEW FINISHES Make Insect Netting Acceptable

HIGHLIGHTS: Permanent cellulose finishes applied to marquisette. Stabilized knit netting also developed. Army material must also be mildew resistant and water repellent.

By CAPT. J. E. GOODAVAGE, *Philadelphia QM Depot**

Netting is as essential as guns in tropical war areas.

BOBBINET NETTING was used by the Army for garrison bars, headnets, and also for shelter tent bars up until 1940, when it was realized that other sources of supply would have to be located to meet the demands of the rapidly increasing Army. At that time there were only 75 bobbinette machines in the United States with a total available annual production of 5,000,000 yd.

The supply of netting was augmented by accepting suitable fabrics made on the Levers, Nottingham, and tricot machines. While these types were satisfactory from the size of the mesh, it was impossible to obtain a netting to meet specification requirements in that excessive shrinkage was a problem which the knitting industry was not able to overcome at that time. Early in 1941, the Textile Section of the Philadelphia Quartermaster Depot developed a suitable woven netting using a leno-weave construction.

While this type of netting was available in quantities to meet the constantly increasing demands of procurement, it had one serious fault; namely, slippage of the threads. This defect was soon overcome by applying the Heberlein finish (a sulphuric acid treatment) which gave the fabric a satisfactory hand, good draping qualities, and stabilized the weave structure. This was the first application of a permanent finish to netting procured by the Philadelphia depot.

At about the same time a progressive tricot manufacturer, cooperating with the depot, submitted the first sample stabilized with a cellulose finish in which pigment coloring was incorporated.

ONE TYPE. In 1942, it was decided to standardize the netting so that one type would be suitable for use in the headnet and the field bar, and to develop a fabric with a fine mesh which would be suitable for tropical use. In addition, the netting was required to be made mildew resistant and water repellent.

As a result of this change, the present marquisette netting differs from that procured originally in that it has two additional picks which are pushed close together, and are tightly bound by the warp threads, forming well-defined openings and resulting in a mesh of 0.03 to 0.0325 in., having a maximum weight of 1.8 oz. per sq. yd. and a breaking strength of 28 lb. in the warp by 20 lb. in the filling, with a total of 625 to 676 meshes per sq. in.

The cotton marquisette insect netting is now the substitute standard netting from which bars, insect, field, mosquito headnets, and the netting for jungle hammocks are made.

The development of the cotton marquisette netting has made available a material superior in strength and more durable than the bobbinette which was the standard up to 1940.

CELLULOSE FINISH. The finishing routine of netting will vary somewhat in each plant, depending upon the equipment available; but the most important operation is the application of the cellulose finish.

The cellulose compounds in general use are of two types. While they differ chemically, they possess one common property: they are soluble in caustic soda.

The type marketed as Ceglin is the hydroxy ethyl ether of cellulose, and the other type is a purified form of cellulose which is put into solution in caustic soda with the aid of sodium zincate. This type is marketed as Celfon and also as Kopan.

The application of the cellulose solutions to the netting, which has

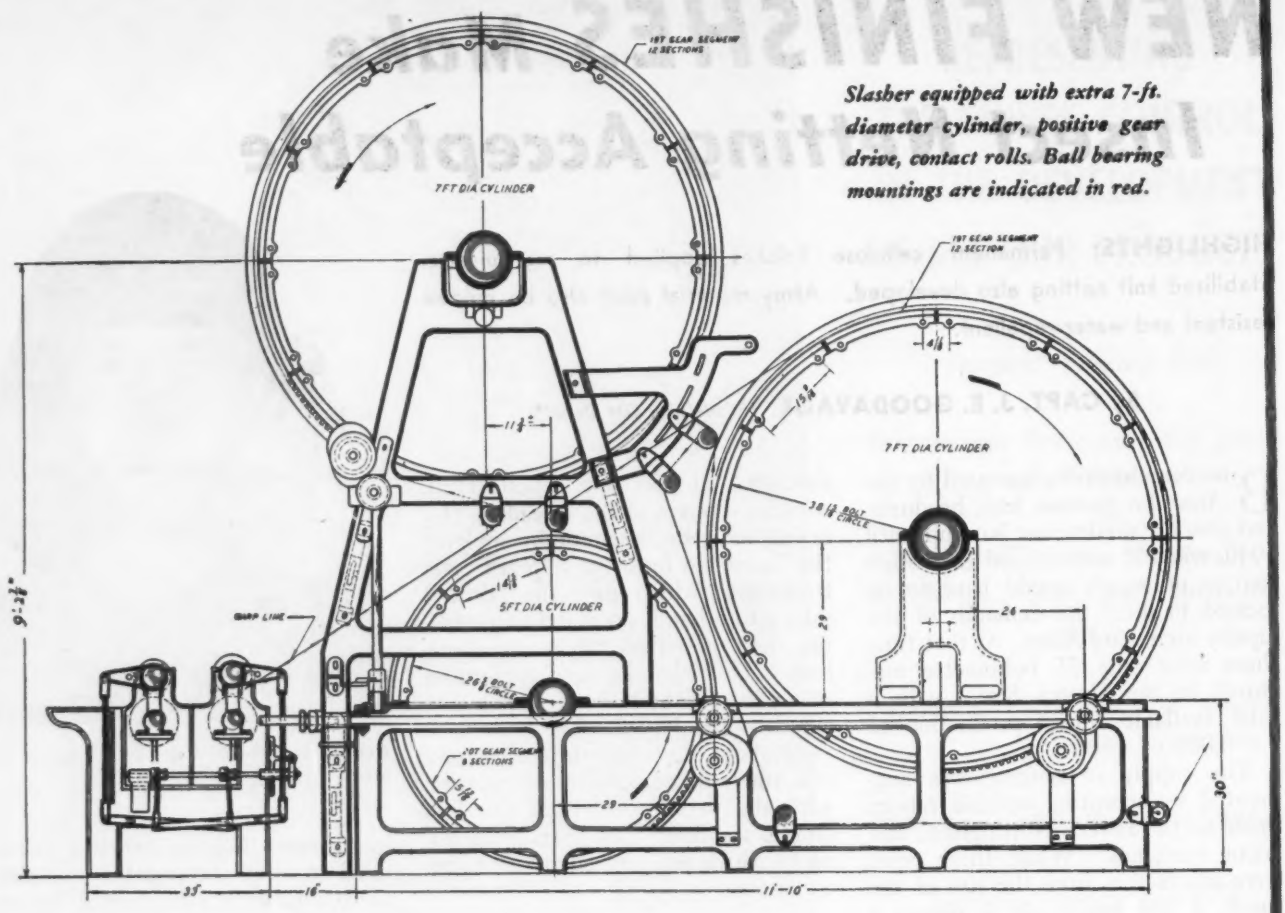
(Continued on page 184)

* *Excerpts from talk "Some Aspects in the Finishing of Cotton Marquisette Nettings with Cellulose Derivatives" at meeting of New York section of AATCC.*

Physical Requirements of Cotton Insect Netting

Weight per sq. yd	1.8 oz.
Thread Count per in., Warp	50-52
Thread Count per in., Filling	50-52
Breaking Strength, 1x1x3 Grab (Min.) Warp	28 lb.
Breaking Strength, 1x1x3 Grab (Min.) Filling	20 lb.
Mesh per sq. in	625-676
Size of hole (Max.)	0.03x0.0325

At the time address was given finished cotton insect netting marquisette on arrival at the Philadelphia QM Depot was expected to conform to the above requirements.



Slasher equipped with extra 7-ft. diameter cylinder, positive gear drive, contact rolls. Ball bearing mountings are indicated in red.

A MODERN SLASHER

The EXTRA CYLINDER increases drying surface, speeding drying. POSITIVE GEAR DRIVE turns drying cylinders without strain on the yarn, maintaining elasticity and improving weaving efficiency. CONTACT ROLLS provide maximum wrap of the yarn around the drying cylinders.

BALL BEARING MOUNTINGS on cylinder shafts and contact rolls provide smoother operation, and insure longer slasher life.

A modern slasher assembly similar to this one increases production and frequently reduces the number of slashers needed. It can be built in your slasher room, using much equipment you already have, which reduces the cost. We will be glad to give you estimates, without obligation. Write or telephone for further information.

WEST POINT FOUNDRY & MACHINE CO.

(Bates-Cook Company, Owners)

WEST POINT, GEORGIA

TEXTILE COMMITTEES
Abroad on Government Missions

HIGHLIGHTS: Group in Brazil arranges for war-use and UNRRA textiles. Another group seeks to use French and Belgian textile facilities, but reports slow going.

By GLADYS MONTGOMERY
Washington Editor, TEXTILE WORLD

UNITED STATES TEXTILE COMMITTEES visiting foreign countries are moving independently, and no attempt is being made to coordinate the various missions which have different functions in different countries. Very little information has been released as to the purpose and progress of these missions, although at least four such groups are now abroad.

The most complete report to date is from the Combined Production & Resources Board mission to Brazil. Under an agreement reached at Rio de Janeiro between CPRB's textile committee and the Comissao Executiva Textil of Brazil, some 300,000,000 yd. of cotton duck will be added to the Brazilian United Nations' commitment for the next 12 months. The total expected from Brazil for this 12-months period is approximately 500,000,000 yd.

Last May, a Brazilian textile mission visited Washington and indicated that its Government would endeavor, in the interest of the Allied war effort, to make available for export about 500,000,000 yd. of cotton textiles during the year, but only a portion of the 500,000,000 yd. was actually ordered and shipped.

The mission found that Brazil had commercial commitments for about 200,000,000 yd. of cotton textiles for 1945, a part of her national contribution to the United Nations Relief & Rehabilitation Administration. Ninety million yards have been contracted for by UNRRA for delivery over 12 months. The French government has concluded orders with Brazil for 60,000,000 yd., which it is hoped will be delivered in 1945. In addition, Brazil hopes to supply a further 60,000,000 yd. commercially to various other markets. The recent agreement between the Commissao Executiva Textil in Brazil and the Textile Committee of CPRB provides for 80,000,000 yd. to be purchased by the government for liberated areas, chiefly in the Far East.

The understanding that has been reached on prices relates Brazilian export prices to world levels.

The CPRB mission to Brazil consists of T. M. Bancroft, chairman of the Textile Committee of CPRB and assistant director of the Textile, Clothing & Leather Bureau of the War Production Board; Col. W. A. Grierson, United Kingdom member of the Textile Committee; Frank Winterbottom, of the British Ministry of Production; Saul Nelson, American staff member of the Textile Committee; and Richard D. Cleaves, of the Foreign Economic Administration.

ARMY EUROPEAN MISSION. A group of textile consultants are now in the European theater under the direction of the Quartermaster General. The object is to survey the potential production capacities of all types of textile mills and clothing factories in France and Belgium and to speed up production of fabrics, clothing, and essential equipment for U. S. Army use.

First unofficial reports reaching Washington indicate that it will be "slow going" in France for some time due to the political situation and the low value of the franc, as well as to coal and transportation difficulties. No substantial production for relieving Army needs seems likely. The situation in Belgium is more hopeful.

The French ministry designates textile mills to fill Quartermaster orders. For example, the present program calling for a few million yards of cotton fabrics has been spread over approximately 100 weaving mills and 60 spinning mills in about 70 communities. This complicates the problem for the Army and entails additional expenses. The same amount of machinery in fewer plants would expedite delivery greatly. One of the consultants has stated that it would be more worthwhile to concentrate on items easy to make and adapted to the mills, such as sheets and pillow cases.

The present program calls for socks (cushion sole) and underwear, with possibly some gloves and high-necked sweaters. (The bulk of the hosiery industry is situated in one section around Troyes, with dyehouses there also.) If the program for cushion-sole socks strikes a snag, some of the yarn can be used for shirts and drawers, according to present plans, and the wool 56s for terry on the cushion sole can be used for sweaters.

Textile men on this mission are:

Walter S. Montgomery, president of Spartan Mills, Spartanburg, S. C.
Joseph L. Lanier, executive of West Point Mfg. Co., West Point, Ga.
William D. Timmons, secretary-treasurer of Buckeye Fabric Finish Co., Coshocton, Ohio.
Joseph Salvatore, owner and president of Milburn, N. J. clothing firm bearing his name.
Maurice Neiken, president of Champion Pants Co., New York, N. Y.
Frank R. Reisenberger, president of Van Raalte Co., Inc., New York, N. Y.
Edward A. Gerhardy, president of Hansen Glove Co., Milwaukee, Wis.
A. E. Warren, vice president of Appalachian Mills, Knoxville, Tenn.
Joseph R. Bentert, export manager of Holeproof Hosiery Co., New York, N. Y.
Ames Stevens, Ames Worsted Co., Lowell, Mass.

International Cotton Advisory Committee

The International Cotton Advisory Committee, during its fourth meeting in Washington, strongly advocated international collaboration in managing and liquidating exportable surplus-production of cotton. In order to get a thorough understanding of the problem, it recommended that a study group be appointed by the various governments which would report its findings to the committee within three months.

On the committee besides the United States, are representatives from Brazil, Egypt, India, Peru, Mexico, Turkey, the Union of Soviet Socialist Republics, and British and French cotton-exporting colonies.

It was stressed that peacetime level of international trade in cotton in pre-war years approximated 13,000,000 bales (500 lb. equivalent), but it had fallen to about 3,750,000 bales in the 1944-45 season. Although considerable expansion of international trade in cotton is expected at the conclusion of the war in Europe, it seems probable that total actual exports during 1945-46 will not approach the pre-war volume of trading and the quantity of cotton available will be greatly in excess of immediate requirements. In the last five seasons total world production of cotton has exceeded world consumption; yet the levels at which prices in many producing countries are now sustained by governments are such as may induce even greater production when wartime handicaps have disappeared.

DEVELOPED FOR *Postwar*

...BUT *Available Now!*

A New Synthetic Wetting Agent of Exceptional Efficiency and Versatility

QUAKER DIANOL #11

YOUR textile processing can benefit *immediately* from the rapid and more economical *wetting and re-wetting* provided by this outstanding new Quaker product. Consider the following characteristics and note the versatility of DIANOL #11—

- **Most efficient on the basis of applied cost.**
- **Applicable to most phases of wet textile processing requiring a synthetic wetting agent of high quality and low applied cost.**
- **Stable in solutions of from 1 to 12 pH.**
- **Is an excellent sanforizing and re-wetting agent.**
- **Stable and effective in hard or soft water and over a wide range of temperatures.**
- **Does not discolor white goods or alter shades.**
- **Rapidly wets out cotton, wool, rayon or acetate fabrics.**

Want more detailed data on DIANOL #11? The handy request form below is for your convenience. Use it!

QUAKER CHEMICAL PRODUCTS CORP.

CONSHOHOCKEN, PA.

Other Plants in CHICAGO and DETROIT Warehouse Stocks in Principal Industrial Centers

A Progressive Organization of Research and Process Engineers and Manufacturing Chemists

For more information on DIANOL #11, fill in below, tear out and mail

Name_____ Position_____

•••PLEASE PRINT COMPANY NAME AND ADDRESS IN MARGIN BELOW•••

MACHINERY AND SUPPLIES

TEXTILE Equipment NEWS

Stop Motion for Cotton Cards

A feed-roll stop motion for revolving flat cards has been developed, and patent applied for, by B. F. Underwood and John C. Grant of Easley Cotton Mills No. 1, Easley, S. C. This device, it is stated, will trip the doffer handle lever and stop the card whenever thick places, lumps, split laps, or other large masses of cotton or foreign materials in the lap attempt to pass through the licker-in. In this manner, licker-in damage and also injury to the mote knives, clothing, and other parts of the card are prevented. Whenever the card is stopped by this stop motion, the operative turns back the feed roll so that the foreign material or excessive amount of cotton may be removed.

The motion consists of a tripping arm which is connected to a tierod. A part of a tripping-arm support is pivoted on a stud holding the doffer lever handle. This tierod is pivoted to the lower end of a weighted arm, the top part of which pivots about a shaft and also carries a small rod which fits into a slot in the bottom of the feed-roll weight. The weighted arm is of sufficient weight as to keep the tripping arm from contacting the doffer handle. But, when an excessive amount of cotton passes under the feed roll, it raises this roll and also the feed-roll weight. Upward motion of the feed-roll weight lifts the weighted arm which, in turn, moves the connecting rod and causes the tripping arm to trip the doffer lever handle.

The stop motion may be easily attached to a cotton card, as the operation requires about two hours time.

This automatic stop motion is manufactured by Southern Loom-Reed Mfg. Co., Inc., Gaffney, S. C., and distributed through J. S. Christopher, 148 Hall St., Spartanburg, S. C.

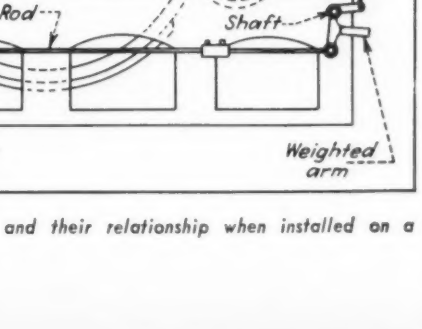


Diagram shows essential parts in stop motion and their relationship when installed on a cotton card (Underwood).

Plastic Reinforced Sweepstick

Loom sweepstick made of duck reinforced with plastic (Jacobs)

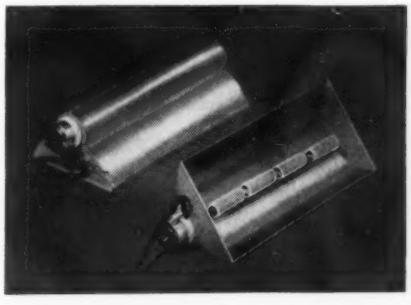
Plas-Tex, a new plastic, using cotton duck as a basis, has been perfected by the research and development department of the E. H. Jacobs Mfg. Co., Charlotte, N. C. and Danielson, Conn.

This material replaces rawhide, leather, fiber, and hard rubber as reinforcing materials for loom replacement parts, such as binders, sweepsticks, and other attachments for the picking motions of looms.

After experimental loom parts were processed with the new material, they were distributed to over 100 woolen, worsted, and cotton mills, so that Plas-Tex could be studied under actual working conditions. To date there has been no failure of these parts, and the life of these items appear to be many times that of the material for which it substitutes.

Plas-Tex fuses into a practically indestructible material under relatively low heat and pressure without the danger of ply separation. The process produces an exceedingly tough, yet resilient material with a high degree of resistance to impact and abrasion.

Infra-red Dryer



Open glow type of infra-red dryer (Doyle)

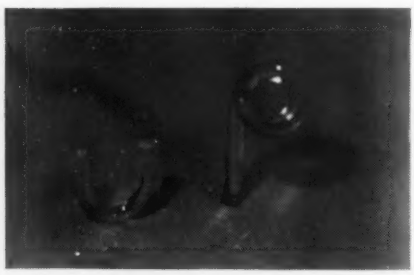
An electric infra-red dryer consisting of open coils held in a reflector unit is being offered by The J. E. Doyle Co., 1224 W. 6th St., Cleveland 13, Ohio. Coils of this radiant-heat dryer consist of 60 turns of No. 23 nickel-chromium wire, each coil of which is 3¼-in. long and 1¼-in wide. Each coil uses 3 amp. at 110 volts. They are mounted in reflector units in stock lengths ranging from 12 in. to 56 in. Reflector width is 8½ in. and height is 5 in. Suggested uses involve supplementary drying, such as mounting a unit over the yarn sheet at a slasher prior to winding the yarn on the

beam, at tenter frames, at dryer units in piece-goods carbonizing ranges, and for similar installations when additional drying capacity will speed-up an operation. This type of dryer is intended to withstand vibration and shock.

Sapphire Guides for Textile Machinery

A newly developed process for forming and polishing synthetic sapphires is used to produce thread guides for textile machinery. It is stated by Sunray Electric, Inc., Warren, Pa., that these guides last much longer than present ceramic guides. The natural hardness and abrasion resistance of sapphire are improved by having a super-polished surface which eliminates the microscopic roughness present on even the smoothest surface produced by conventional methods of lapping and polishing.

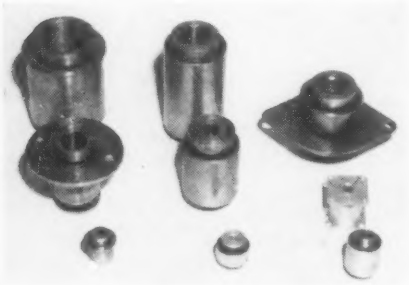
These sapphire pigtails, U's, and hooks are available in plastic holders which are molded directly to them, and are formed to fit any type of textile machinery. Guides on present machines can be readily replaced with these sapphire guides without costly conversion or loss of time.



Sapphire U guide and pigtail guide suitable for replacing present thread guides (Sunray Electric)

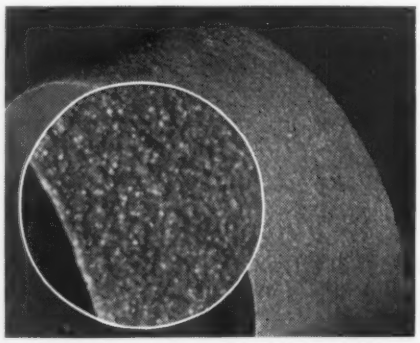
Torque Action Fittings

A development in isolation of vibration in radius rods, thrust bearings, and other equipment where torque action of an oscillating movement of predictable amplitude is found has been announced by General Tire & Rubber Co., Mechanical Goods Div., Wabash, Ind. The General fittings, called Silentbloc, have found scores of wartime applications in absorbing shock and vibration. In "floating" motors, electrical equipment, or other machinery, the General mounting employs a rubber-to-metal adhesion obtained by pressure and friction resistance rather than by bonding. The same construction is employed for a torque load when the rubber itself, by "elbow action," serves as a bearing for parts oscillating at an angle up to 30°.



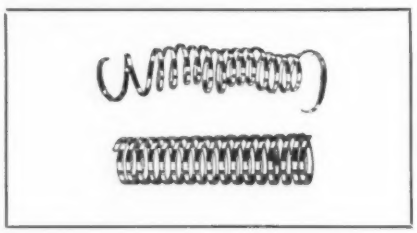
A number of Silentbloc units in which the twisting action of the rubber mounting serves as a bearing support (General)

SNAG-RESISTANT ROLL COVERING



Covering suitable for use on take-up rolls and for other applications where abrasive-covered rolls are required is being made by Minnesota Mining & Mfg. Co., St. Paul 6, Minn. This Spherekote Tympan paper has its surface covered with small glass spheres which reputedly will not snag fine fabrics. Surface may be easily cleaned.

Reconditioned Franklin-Process Springs



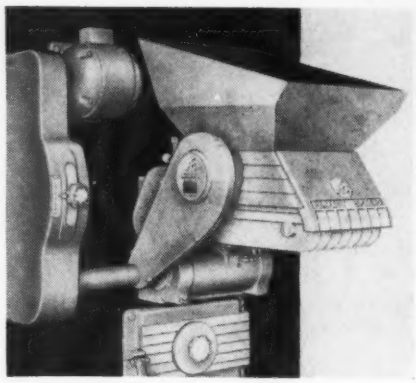
Springs before and after reconditioning (Dearborn Spring)

A satisfactory method of reconditioning Franklin-Process springs for the textile industry has been developed by Dearborn Spring & Mfg. Co., 7915 Wisconsin Ave., Dearborn, Mich., it has been stated.

These springs, used in package dyeing, become unstable because of stretching and are damaged in handling. Being made of critical materials, they are hard to replace. Reconditioning may be had at a fraction of the cost of new springs.

Also, this company is equipped to chrome plate brass springs. This is especially helpful as the plating tends to overcome bleeding and smudging conditions near the springs when dyeing light shades.

Spreader-Type Stoker



An automatic spreader-type stoker for boilers from 175 hp. capacity (American Engineering)

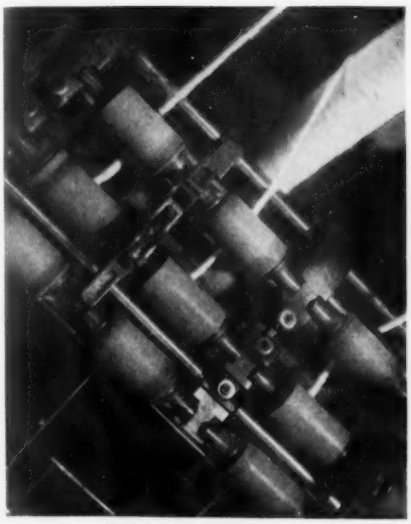
A new spreader-type stoker has been announced by American Engineering Co., Philadelphia 25. This modern, completely automatic stoker efficiently burns all kinds and grades of solid fuels, including by-products and plant refuse, whether wet or dry. The stoker has a non-clog feed, uniform fuel spread by a reliable overthrow method, and thorough combustion through forced draft and exclusive grate design. The stoker can be easily installed under most existing boilers to produce steam above 175 hp.

Cot Designed to Eliminate Eyebrowing

The Dayton Rubber Mfg. Co., Dayton, Ohio, announces a new cot designed to eleminate eyebrowing on flat clearers on spinning.

The surface on the new cot is made up of infinitesimal pockets and needs no special treatment other than normal buffing. This surface holds through the cot body so that buffing does not affect its non-eyebrowing qualities nor does it have to be rebuffed for the special purpose of retaining its non-eyebrowing features. It gives unusually long service between buffings and its synthetic rubber composition is designed for uniform wear.

In mill tests run by the company,



Spinning cot designed for frames where eyebrowing is a problem (Dayton Rubber)

the new type S. Dayco cot has been found superior to other materials on number of ends down. And further tests have also proved that its non-eyebrowing features are equally effective for special types of synthetics and for blends of fibers. The type S cot is a companion cot to the type C Dayco cot which has been in successful operation for eight years.

EAR PROTECTOR ABSORBS NOISE

Protectors made by Industrial Products Co., 2820 N. 4th St., Philadelphia, Pa., are inserted in the ears of workers to absorb noise in the harmful levels above 90 decibels, as found in textile mills. These protectors reduce the noise level to one more comfortable for employees.

All-Steel Lamp Fixture

A new four-light 40-watt commercial unit of the shielded type for surface and suspension mounting, has been announced by Day-Brite Lighting, Inc., St. Louis, Mo. This fixture, the Coronado, consists of a basic chassis finished in baked white enamel.

The enclosure, consisting of a welded steel frame finished in baked luster aluminum enamel with ribbed-glass side panels, is attached to the chassis by means of two spring-tension

(*Continued on page 204*)

DYES & CHEMICALS

PRODUCTS & PROCESSES

Dry-Knitting Nylon Size

PRONYL; Specialty Products Co., 190 Warren St., Jersey City 2, N. J.

A single-end nylon size that can be applied at any stage and without any special equipment has been developed for hosiery as a result of work on a size for warps to be warp-knit into tricot net.

Specialty Products Co. states that only one treatment is necessary, such as from emulsion rolls during coning, and that yarn for full-fashioned and circular hosiery can be treated the same.

Pronyl is supplied in solvent solution form. It requires no mixing, no drying period after application, and the strength of the solution need not be adjusted periodically. Probably the most important feature is that it can be knit dry. Samples run on pre-war yarn and tested by a commercial testing house showed improved resistance of gray hosiery to snag, attributed to the size. Hose from Pronyl-sized yarn lie flat after preboarding and should dye clearly.

New Acetate Dyes

EASTMAN FAST YELLOW GLF; FAST VIOLET 5RLF; Tennessee Eastman Corp., 10 East 40th St., New York 16, N. Y.

Tennessee Eastman Corp. in announcing a new series of acetate dyes with special fastness to sunlight calls special attention to the two colors above mentioned.

Eastman Fast Yellow GLF is the first color in a projected series and is said to produce bright shades of neutral yellow on both acetate rayon and nylon. This color is said to dye over a temperature range of 130 to 190° F., and to be exceptionally level at all temperatures. Exhaustion is said to be rapid, which may render it a desirable color to dye with blues of the rapid-exhaust type in order to make various shades of green.

This color gives a complete reserve on cotton and viscose rayon, rendering them suitable for cross dyeing. Manufacturers state that in pastel shades 25- to 40-hr. light fastness can be expected; while on heavy shades, the light fastness will reach 240 hr.

The second color of the series, Eastman Fast Violet 5RLF, is an anthraquinone dye which produces a reddish shade of violet on acetate rayon and a somewhat bluer shade on nylon. This color dyes at 160 to 190° F. and is also said to have outstanding fastness to light.

Both colors are recommended by the manufacturer for both box and jig dyeing on all types of fabrics.

Wetting Agents

QUAKER DIANOLS; Quaker Chemical Products Corp., Conshohocken, Pa.

The Dianols, a series of synthetic wetting agents developed primarily for postwar sales, are now available to the textile industry, the Quaker company says, due to an unexpected release of certain raw materials.

They are said to be non-volatile at the ordinary drying temperatures used for textile processing, thus possessing desirable features not only from an initial wetting, but also from a re-wetting standpoint.

The company lists the following qualities: Most efficient on the basis of applied cost. Applicable to all phases of wet textile processing requiring a synthetic wetting agent of high quality and low applied cost. Stable and effective in solutions of 1 to 12 pH. Excellent sanforizing and re-wetting agents. Stable and effective in hard or soft water and over a wide range of temperatures. Do not discolor white goods or alter shades. Rapidly wet out cotton, wool, rayon, or acetate fabrics.

New Line of Resins

SYNVAR RESINS; Wilmington Chemical Corp., 10 East 40th St., New York, N. Y.

This company has recently announced a complete line of urea-formaldehyde and phenol-formaldehyde resins. Present products include standard resins in liquid and powder form for a wide range of applications, as well as specially developed products for particular purposes.

The company further states that thermoplastic resins will be made available in the near future.

THE ATWOOD MACHINE CO. PURCHASED BY FARREL-BIRMINGHAM

Two Century-Old Firms

"The engineering experience and technical and manufacturing facilities of this company . . . will be available to assist in the future development of Atwood products"

Atwood Division at Stonington, Conn., where Atwood twisters, winders and redraws are built.

Main office, foundry, machine and roll shops at Ansonia, Conn.

Foundry, welding and machine shops at Derby, Conn.

Gear manufacturing plant and machine shop at Buffalo, New York.

With these words, Farrel-Birmingham Company, Inc., of Ansonia and Derby, Connecticut, and Buffalo, New York, announced the purchase of The Atwood Machine Company.

From now on — in developing new products, in improving existing ones, and in working toward greater production economies — Atwood will be able to draw upon Farrel-Birmingham's management, production and engineering skills . . . extensive research, chemical and physical laboratories . . . two large foundries . . . and three modern machine shops equipped with more than 500 machine tools.

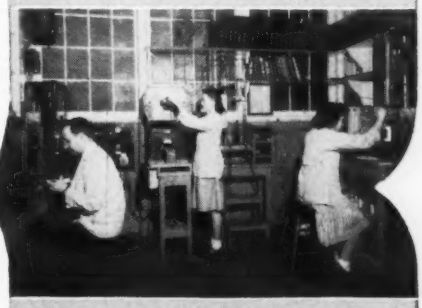
Farrel-Birmingham has been building machinery for more than a century. During this time the Company has grown to be the largest manufacturer of rubber processing machinery in the country, a leading producer of gears and gear units, one of the five principal suppliers of propulsion gear drives for U. S. Navy and Maritime Commission vessels, the nation's largest maker of specialty rolls, as well as an outstanding builder of machinery for the plastics, linoleum, metal working, paper, sugar and other industries.

Among the products developed by Farrel-Birmingham engineers are the Banbury Mixer, probably the most important single machine used in processing rubber; the Farrel-Sykes Gear Machine, which cuts herringbone gears without a center groove; and the extremely accurate rolls used in eighteen different industries.

Now the engineering skill and painstaking manufacturing methods, which made these and other Farrel-Birmingham products possible, will be available for the future development of Atwood ring twisters, uptwisters, redraws and other machinery for the manufacture of rayon nylon, cotton, worsted, spun rayon, silk and combination yarns.

Franklin R. Hoadley, formerly president of The Atwood Machine Company, has been elected president of Farrel-Birmingham Company, Inc. and will continue to give general direction to Atwood operations. *William M. Fraser*, formerly vice-president of Atwood, has been made a director of Farrel-Birmingham and general manager of the Atwood Division.

A corner of the Farrel-Birmingham physical testing laboratory containing tensile and transverse testing machines, Brinell hardness tester, photomicrographic and other apparatus.



View in the chemical laboratory where materials entering into Farrel-Birmingham products are carefully analyzed.

The main bay of the Farrel-Birmingham machine shop at Ansonia—one of four owned and operated by the company.

ATWOOD

ATWOOD DIVISION

Farrel-Birmingham Company, Inc.

STONINGTON, CONN., U. S. A.

Mill Maintenance

TO KEEP 'EM RUNNING

Changing Loom Drives to Utilize Multiple V-Belts

By W. L. FLUKE,
Belting Engineer, The B. F. Goodrich Co.

EXPERIMENTAL TESTS on loom drives at Martha Mills, textile plant of The B. F. Goodrich Co., Thomaston, Ga., have proved that completely satisfying drive service can be obtained using multiple V-belts. While the textile industry was among the first to adopt multiple V-drives as a power transmission medium, standard model looms remained gear driven. It was not until new developments in V-belt construction made the V-belts shock absorbing, allowing the "give and take" needed if the drive was to stand up, were such drives possible.

Multiple V-drive on heavy duck loom in the Martha Mills where a series of experiments have been conducted with this type of loom drive for over a six-year period.

One lesson learned over the six years of tests was that too heavy a flywheel driven pulley should not be used, but that the belts themselves should be allowed to take the shock. Too heavy cushioning effect by the flywheel will cause loom parts to break when the loom knocks off. This happened during the early Martha Mills tests and was overcome by reducing the weight of the driven pulley.

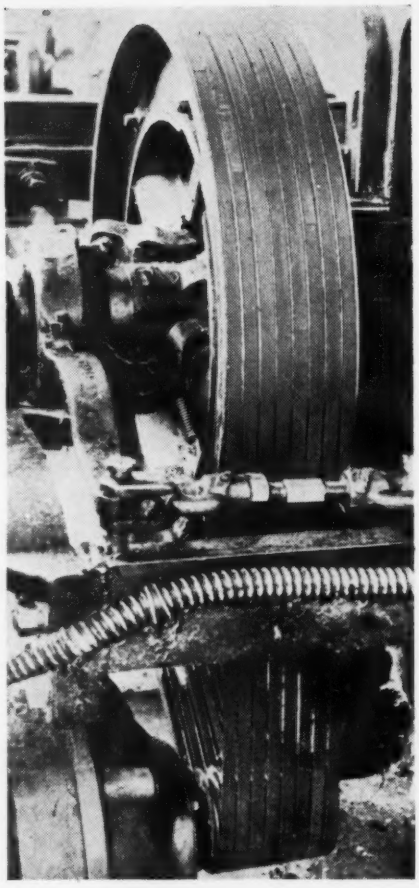
Analysis of the tests clearly indicates that there is a definite advantage to be gained in changing over the heavier looms to V-drives if the shock absorbing, resilient, high-flexing type of belt is used, but that low stretch or non-resilient belts cannot be used successfully.

With smaller looms, which generally are of special design with the gear drives built into them, it is not believed practical to throw out the present drive and install V-belts. However, upon failure of gears or motors, or during a general overhauling period, definite beneficial results can be obtained by making the changeover to V-drives.

In the Martha Mills tests, on which 12 units of Draper tire-cord looms were equipped with V-drives in March, 1938, and 16 units of Crompton & Knowles heavy duck looms were changed to V-drives in July, 1940, actual data and observations show that the advantages obtained with V-drives as compared to gear drives are as follows:

1. Lower maintenance with V-belts.
2. V-belt life averages two years, as compared to approximately 6 months with gears.
3. Operations are smoother with V-belts.
4. Less noise with V-belts.
5. When replacement is necessary, V-belts require less time and less cost to replace.
6. V-belts have shock-absorbing qualities not present in positive transmission.
7. V-belt drives save and extend life of other parts of the loom by absorbing peak loads.
8. Approximately the same power is absorbed in either V-belts or gear drives.
9. If necessary, a quick and cheap method of changing loom speed may be had by using a variable pitch pulley.

INSTALLATION DATA. Following is the detailed data on both types of installations on which the tests were made at Martha Mills:



A short-center drive using V-belts as the driving medium. This type of drive has proved practical on heavy-duty looms.

DRAPER TIRE-CORD LOOMS

12 units in operation, V-belt driven.

Model P—66-in. loom.

Changed to V-belts in March, 1938. Changed to V-belt drive because looms were not designed for work of weaving tire cord and gear drives would not pull the load required.

Cost of changing a drive was $25.00 for sheave, plus labor charge.

Allis-Chalmers motor used—Rated 3 hp. at 705 r.p.m. Actual load is 2.5 hp., and 695 r.p.m. is speed at full load.

Motor pulley is 5-groove A section 4.0 in. o.d. or 3⅜ in. p.d.

Driven pulley is 5-groove A section 18⅜ in o.d. or 18 in. p.d.

Rim i.d. is 13⅜ in.

Belts are B. F. Goodrich style No. 7 size #A105.

CROMPTON & KNOWLES HEAVY DUCK LOOMS

16 units in operation, V-belt driven.

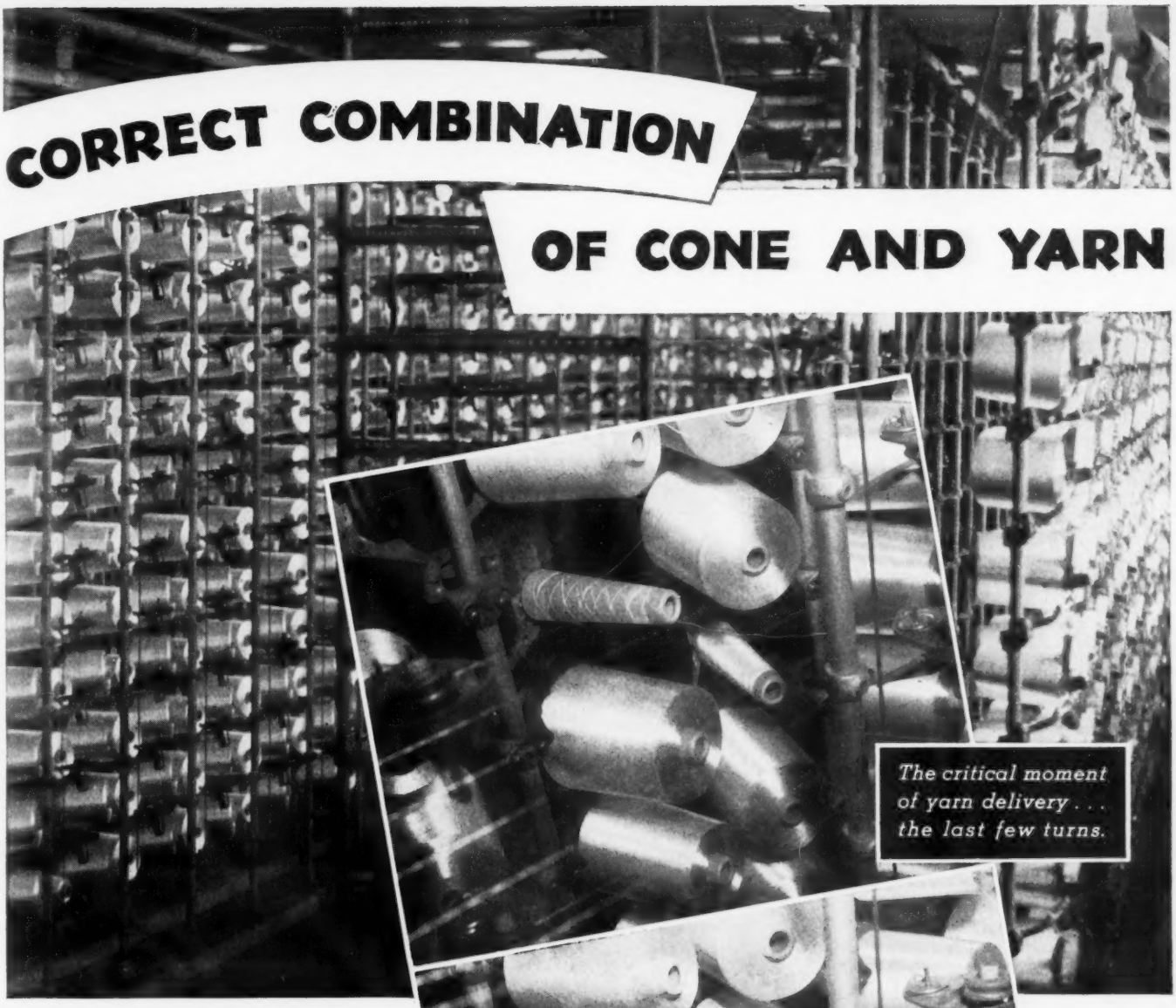
Model improved Med. No. D-3 loom.

Changed to V-belts July, 1940. Change was made to V-belt drives to eliminate noise and to lower maintenance cost.

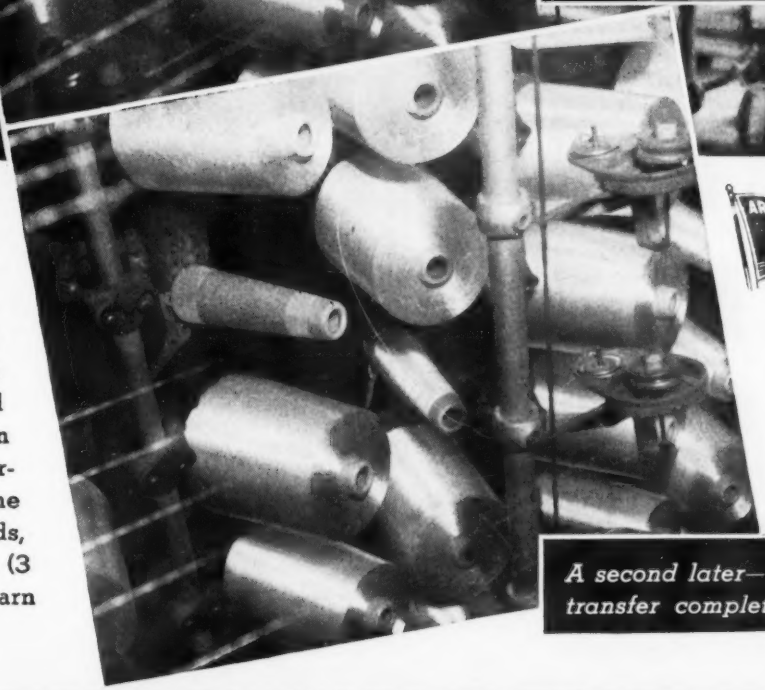
Cost to change to V-belt drive was $50.00 for sheaves, plus labor charge.

Allis-Chalmers motor used—Model AR—Rated 5 hp. at 700 r.p.m. Actual full load on motor 3.7 hp. at 705 r.p.m. Motor pulley 8-groove A section 4½ in. o.d., 4⅛ in. p.d. Driven pulley 8-grooves A section 26⅜ in. o.d., 26 in. p.d. Belts are B. F. Goodrich Style No. 7 size A96.

CORRECT COMBINATION OF CONE AND YARN



The critical moment of yarn delivery . . . the last few turns.



A second later—the transfer completed.

Twenty-four hours a day every day this magazine creel runs continuously on urgent war production. Every few seconds of every minute a transfer from an empty to a full cone takes place—testing the uniform perfection of SONOCO cones—and the correct type of cone for the yarn being used. In this case a 3° 30′ burnished, round nose, velvet banded cone with polished surface between bands, handles the 150 denier low twist (3 turns) semi-high tenacity rayon yarn smoothly, freely, to the last turn.

ARMY (E) NAVY

sonoco

SERVES THE WORLD

PAPER CARRIERS

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

Kinks AND SHORT-CUTS

A $25 WAR BOND FOR YOUR IDEA

A $25 War Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production; in brief, any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operations. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ WAR BOND PRIZE WINNER FOR MAY

(March Contest)

EMULSION MIXING TANK USES COMPRESSED AIR

Compressed air, we find, can be used very effectively in mixing emulsions such as are used in spinning wool. The drawing shows how a mixing tank can be constructed easily.

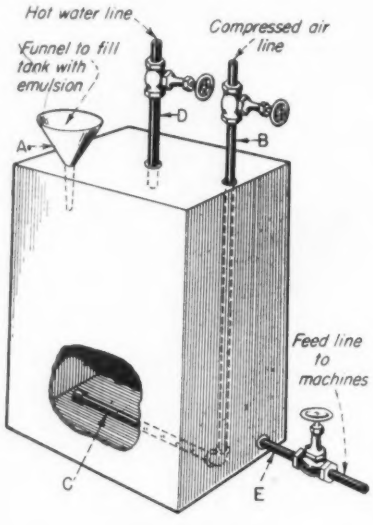
A is a funnel fastened to the tank and projecting 1½ in. inside of it. The funnel is used to introduce the oil and is so arranged as to prevent splashing when the air pressure is turned on.

B is the compressed air inlet. We use a ½-in. pipe which is run to the bottom of the tank where it connects with *C* which is a 1-in. pipe plugged on the end and drilled with ½-in. holes every 8 in.

D is a hot water inlet, and *E* is a pipe from the bottom of the tank. The latter runs to and fills the emulsion tank on the gill box.

All mills using compressed air can make use of this device.

Compressed air at approximately 90-lb. pressure is used. In less than 1 min., oil and water are well mixed and a nice creamlike emulsion can be fed to the emulsion tank.



This mixing tank is mounted on the wall higher than the emulsion tanks on the machines.

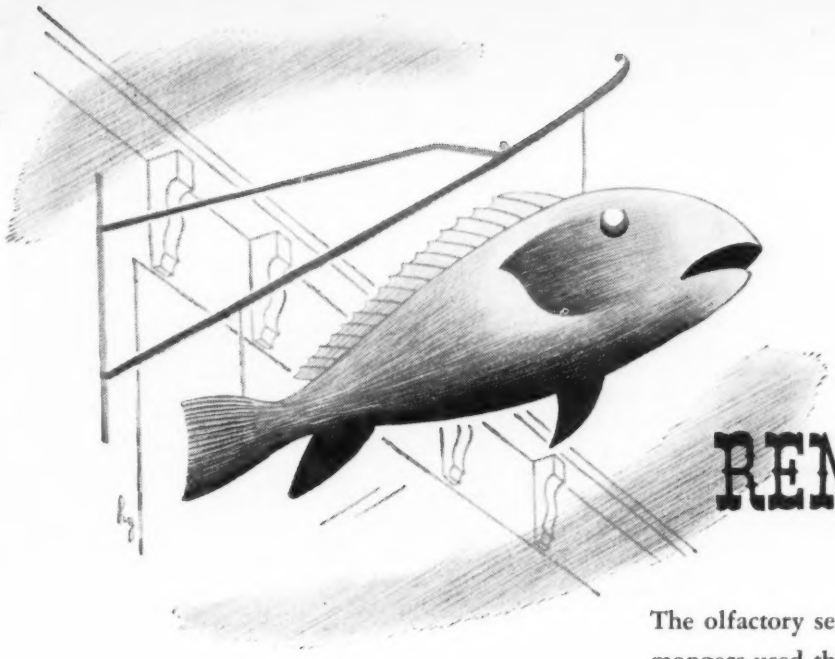
This eliminates uneven emulsion which is very often the cause of uneven drafting. *(K-320) Lucien Brunette, Huntington, Quebec Canada.*

Frame Stops Loom When Harness Breaks

Although there are a number of different devices used to stop a loom when a harness strap or a related part breaks (see TEXTILE WORLD, January, 1945, p. 132), the motion illustrated is one of the best and has been used successfully for a number of years on C & K looms. A motion of this sort will save a weaver many pick-outs and also increase the production and quality of the fabric woven. This is especially true when weaving heavy fabric and there is considerable strain on the harness motion. The motion operates on the principle that when a strap or related part breaks, the wire connecting the harness jacks will loosen and come in contact with an insulated frame causing an electric contact which will stop the loom by means of the electric warp stop motion.

The frame is constructed of ¼-in. cold rolled steel or iron. With a little care it may be bent cold, although if a blacksmith is available it would be advisable to have him do this work. A ⅜-in. machine bolt with a fiber bushing and fiber washers at each end are used to fasten the frame to the loom side. Fiber bushings such as are used in the old-style automatic loom binders are suitable for this purpose.

Electrical connection is made by running a wire from the machine bolt to the solenoid which operates the warp



REMEMBER?

The olfactory sense may have guided people, but fishmongers used this obvious sign to draw trade.

The trademark or name on your product may be your only contact with customers. It must be distinctive, dignified, eye-catching. The reputation of many large successful businesses has been built on the acceptance of a trademark or name. Kaumagraph Identification Products offer several attractive economical methods of labeling and marking your products.

New uses for Kaumagraph* Dry Transfers, Prestomarks, Embossed Seals and Boxwraps have been developed for war—many have now been released for general consumption, others when peace returns. The demand for these new methods and products in addition to our regular production will assure full employment and opportunities for many returned veterans and demobilized defense workers.

Any detail from the designing of your trademark to production and registration of the finished product can be handled by Kaumagraph. Investigate now. Send for a Kaumagraph Identification Man today.

*Reg. U. S. Pat. Off. "Kaumagraphs" are made only by Kaumagraph Company

PRESTOMARKS

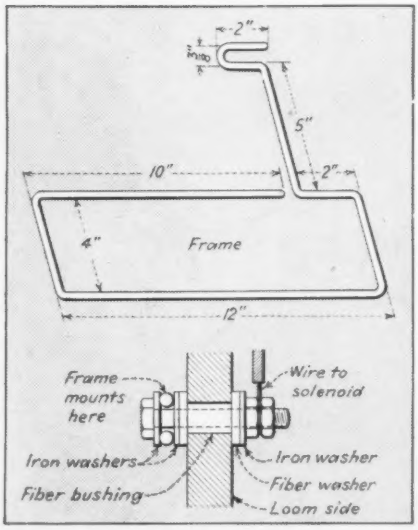
for economical, attractive, permanent labeling. The touch of a hot iron makes them stick for all time.

Identification Headquarters since 1902

KAUMAGRAPH

KAUMAGRAPH COMPANY • WILMINGTON 99, DELAWARE • EMPIRE STATE BUILDING, NEW YORK 1, N. Y. • REPRESENTATIVES IN PRINCIPAL TEXTILE CENTERS OF THE WORLD.

KINKS & SHORT-CUTS
(Continued from page 150)



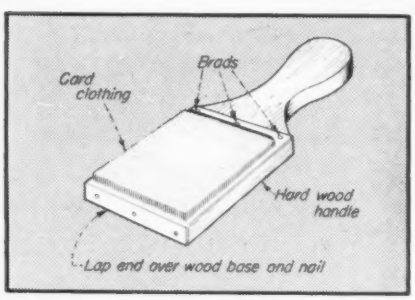
Frame is mounted around wires connected to harness jacks.

stop motion. A lug terminal should be soldered to the end of the wire that connects to the bolt holding the frame. The other end should be connected to the wire coming from the solenoid to the drop-wire rods. In operation, the frame must not come in contact with any metal object as this will cause the loom to stop. Spare harness wires should be tied in such a way that they do not contact the frame. *(K-159)*

Handy Cleaning Brush Uses Old Card Clothing

The condition of shuttle fur is important to the weaving of quality goods. Often a piece of fabric is ruined due to the shuttle fur not being properly cared for. Such defects as rough cloth, slack picks, and lumps usually occur when the fur is in a matted condition, as is caused by sizing, grease, and dirt.

A suitable method to clean the fur is to use a good brush. The brush shown in illustration was made several years ago, and, as it is still in excellent condition, it can be used for many more years.



Similar brushes of different sizes can be made for many different jobs.

The material used in making this brush is a piece of fine steel-wire card clothing, a piece of hardwood, and a few brads. First remove a row of bristles from each end of the card clothing for approximately ¼ in. On one end, it is lapped over, while the other end is nailed flat to the wooden surface. The piece of hardwood should not be more than ¼ in. in thickness, the same width as the clothing. The handle can be shaped to suit the user. Apply a coat of glue to the wood before nailing on the clothing. *(K-321)*

Cardboard Separators Prevent Bruised Quills

Illustration of damage caused by cardboard separators not being used between stacked boards of quills.

When the shelf on which quills are kept is loaded to capacity and additional boards with the same yarn are piled up in front of the shelf, it often happens that quills in the front row of the boards are scraped by the edges of the metal frame of the board next to them.

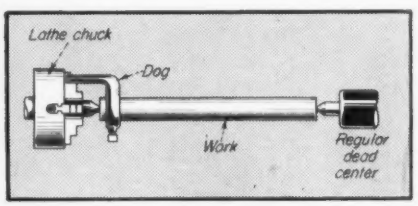
To prevent this, the board should be handled carefully by the quill-carrier and a cardboard should be put between the boards to prevent the metal edge of one board from touching or harming the yarn on the quills of the other boards. *(K-319)*

Piece of Steel Saves Time for Lathe Operator

If you have to change from chuck to live center on your large lathes very often, here is a time and back saver.

From the scrap pile select a straight and smooth piece of cold-rolled steel about 8- or 10-in. long and about 1-in. in diameter. Fasten this fairly truly in the chuck, and let it extend out from the jaws of the chuck about 1 in.

Now adjust your cutting tool to strike the steel in the center, as if you were going to center the rod. Begin cutting from the jaws of the chuck



The same piece of steel can be reused as a live center by recutting it each time.

outwards on the rod and make a smooth point. After this is finished, you will have a perfect center very quickly and will not have to do any lifting. In fact, this will be truer than the regular center if the lathe is worn very much.

You can now fasten your regular dog on the work, and the jaws of the chuck will act as a stop or holder for the dog. Of course, you will use your regular dead center. *(K-371) S. J. Phillips, Jr.*

Holder Made for Tools Most Frequently Used

When it is necessary for the machine fixer to use the same tools repeatedly in repairing various motions, this holder will enable him to select the proper tool instantly and thus save time otherwise lost.

The required material for the tool holder shown in illustration is as follows: 1 piece of wood 2x2x12 in.; 1 piece, 2x4x12; and 1 piece, 2x6x12. Any kind of hard wood is suitable. The

STARCH is at War*

* in PAPER used to plan the attack

U. S. Navy Photo

— a U. S. Navy photo records the damage to a Jap Pacific air base. Reconnaissance photos provided detailed installation data. And objective maps, prepared by skilled photo-interpreters, selected the targets for pin-point bombing. Photographic paper and special paper necessary for accurate speed reproduction of military charts and maps use *substantial quantities of starch!*

* in TEXTILES used to make the attack

U S Army Photo

Snow capes, like camouflage cloth, increase the effectiveness of a soldier in battle. And like barrage balloon cloth, cotton duck, tent twill, surgical gauze, parachute cloth for flares — they're made of single yarn fabric. None could be woven *without the use of large quantities of starch* as warp size.

DO YOU KNOW? that starch products are also used in signal flares, colored smoke grenades and sky markers to control the burning rate . . . in batteries as a carrier for the electrolytic agent . . . in field rations as a basic food item in the diet of our fighting men . . . in drugs and medicines to facilitate tableting, to standardize dosage, to increase the rate of dispersion . . . in aluminum to hasten settling and filtration of the crude sodium aluminate solution . . . in boiler treating compounds for especial Navy use.

Remember this — if you're unable to obtain starch products to meet your civilian requirements — *starch is at war in hundreds of ways!* Our first responsibility is to formulate and produce starch products for vital war applications. National is proud of the high trust placed in its research, service and production facilities by our armed forces.

Specific war application information is available — NOW! Address: National Starch Products, 270 Madison Avenue, New York 16; Boston, Philadelphia, Chicago, Indianapolis, San Francisco and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto and Montreal.

National STARCH PRODUCTS

STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

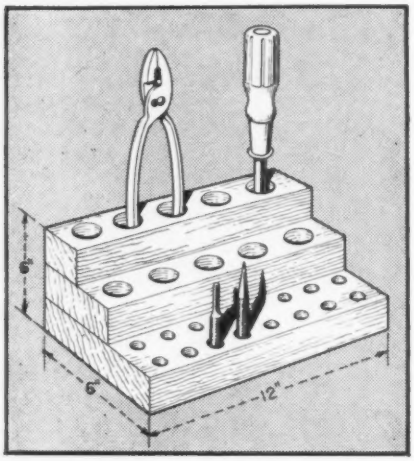
KINKS & SHORT-CUTS

(Continued from page 152)

three pieces can be glued or screwed together to form the holder.

After it is assembled, holes can be drilled to suit the tools. Top holes can be used for pliers, nippers, screw-drivers and the like; bottom holes, for various sizes of pin punches and many other tools that are used by the machine fixer.

Whenever the day's work is done this holder can be put away in the work bench or cupboard without removing the tools. *(K-323)*



Tools in holder are more accessible than in box.

Harness Adjustment For Entering Frame

A harness adjustment for an entering frame can be easily made from four chains approximately 24 in. in length each. As shown in the sketch, when making adjustments in height to suit individual requirements, merely raise or lower the set of harness with the bars and chains.

Entering frames are built from various materials: wood, angle iron, or pipe. Some enterers prefer the harness set high so heddle eyes come level with the eyes, and they work rapidly with short hooks but without elbow rests. Other enterers obtain considerable speed with the heddle eyes lower. They use longer hooks and rest their elbows on their knees or resting boards.

To use the chains as shown, fasten hooks between the chains and the top. Two chains form one unit: two units are used on a frame. Connect the two chains to hold the shafts with a flat steel bar or rod as shown. The end is notched so that when slipped through a chain it lies flat and locks itself. The weight of the harness keeps the crossbars locked securely in position. *(K-315)*

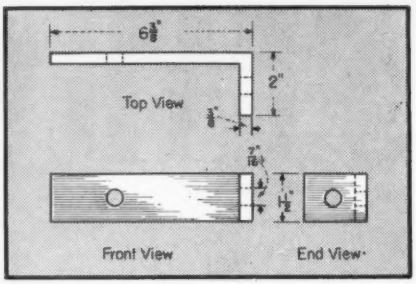
Pick-Shaft Bearing Is Supported by Brace

On our Draper cotton looms, the part of the loom frame which supports the pick-shaft bearing (or box) frequently breaks out due to excessive end-thrust of the pick shaft.

In this case, welding would necessitate quite a loss of time. To eliminate this delay, a pick shaft bearing support is applied and does the job of holding the bearing in place very nicely. It can be used temporarily or permanently, as desired.

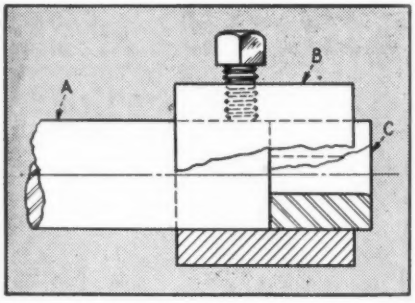
A piece of $\frac{3}{8}$-in. cold-rolled steel, $1\frac{1}{2}$-in. wide, is bent to a right angle. The long part should be $6\frac{3}{8}$ in. overall and the short part 2 in. overall.

To continue from there, it will be best to follow the specifications for the particular model of loom to which it is to be applied. Use one $\frac{7}{16}$-in. loom bolt to fasten to loom and one $\frac{7}{16}$-in. set screw with two hex nuts as the adjusting screws. *(K-318)*



Drawing gives dimensions of pick-shaft bearing support for one type of loom.

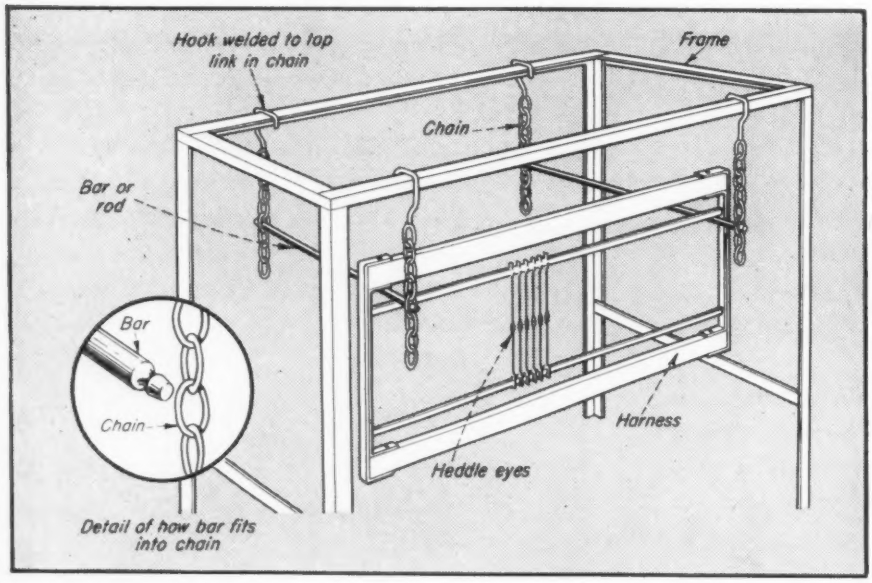
Jig Is Useful For Drilling End of Shaft



Jig is made from two collars.

In applying attachments to knitting machines, we frequently have found it necessary to drill and tap the ends of shafts. With pattern-drum shafts, we saved the time required to take the shafts out of the machine for drilling and tapping by the use of improvised jigs as shown in the sketch. We also saved the time needed for reassembling and timing the drums.

We picked from stock two close fitting collars, one for the shaft A, and the other C with an outside diameter equal to that of the shaft and a bore to fit the tap drill or smaller. If smaller, we redrilled to the size wanted. When collar C is $\frac{3}{4}$-in. long, it makes an excellent guide for an electric hand drill. *(K-286)*



Use of chains and crossbars makes it easy to adjust height of frames.

Strap Assists Lifting Loom Let-Off Lever

The lever-weight principle of warp tensioning is still used in many weave sheds as the ideal method of warp

HERE'S THE TRUE STORY ABOUT A GOOD YARN!

* * *

. . . IT IS PROBABLY THROWN WITH

RAYOLENE

FOR BETTER LOOKING, LONGER WEARING, FULL-FASHIONED HOSIERY

Many leading commission throwsters and hosiery mills are standardizing on Rayolene treatments in processing viscose, acetate and Bemberg yarns for full-fashioned hosiery.

They know from experience that the use of Rayolene produces yarns of better knittability, clear stitch, and high tensile strength. Rayolene imparts the right degree of lubricity, leaving the yarn neither too brittle nor too oily.

Rayolene-treated yarns simplify the boil-off and subsequent dyeing and finishing.

Rayolene treatments are readily available for all types of rayon. Ask your throwster to supply you with a lot of Rayolene-processed knitting yarn—or contact us directly.

•

SPECIAL SERVICE: *If you have a yarn processing problem on which a Sonneborn field technician can help, write us. We'll gladly send the right man to your mill or your laboratory. No obligation.*

TEXTILE CHEMICALS DIVISION

L. SONNEBORN SONS, Inc.

88 Lexington Avenue, Dept. TW., New York, 16, N. Y.

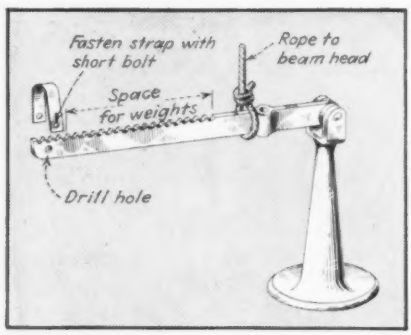
*

Plant and Laboratories:
Nutley, New Jersey

Refineries:
Petrolia and Franklin, Pa.

KINKS & SHORT-CUTS

(Continued from page 154)



Drill end of lever to attach strap

tensioning, but on many weaves the weights are entirely too heavy for weavers to lift after a rip-out, when weights are lowered, or whenever they are trying to raise the weights by means of the long lever bar. Shown is a method used successfully in some mills. It is an old trick that has proved helpful in avoiding unnecessary calls for assistance to raise weights.

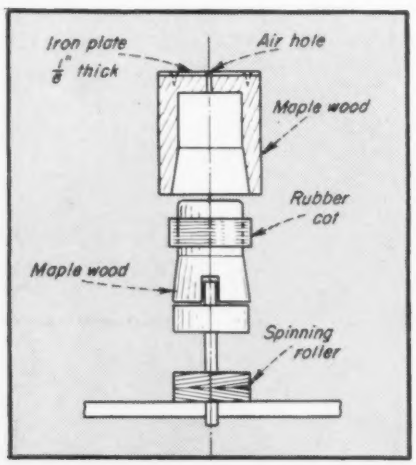
Fixers can make the lifter strap from single-ply belting or even cotton tape of fairly heavy construction. The strap should be approximately 2-in. wide; the loop should have an overall length of about 12 in. to allow ample room for the weaver's hands when lifting. Bolt the strap to the lever end. *(K-275)*

Wooden Forms Push Cots on Spinning Rollers

The kink shown in the sketch is one we have used for over a year for placing new rubber cots on our worsted spinning rollers.

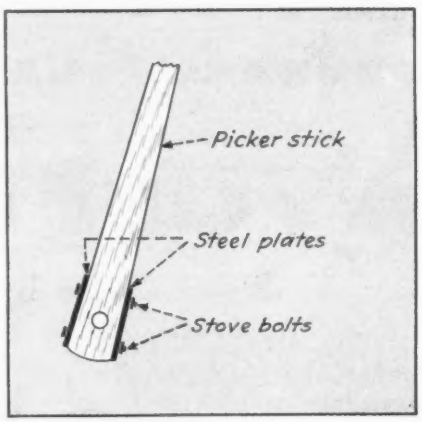
Both parts are made of wood. The upper is pressed downward by the mechanism of a drill press. The upper part is so constructed that when it comes down as far as it will go, the cot is squarely on the roller. This prevents pressing on the cots too far.

We have made up a set for putting cots on our drawing rollers which have a 7¼-in. diameter and are 5½-in. long. On the bottom roller can be seen grooves which we have found very helpful in keeping cots on. *(K-324)*



Only a few seconds are needed to place cots on rollers when using a drill press and the wooden pieces shown.

Reinforcements Increase Life of Picker Sticks



Use this method to prolong life of picker sticks during scarcity.

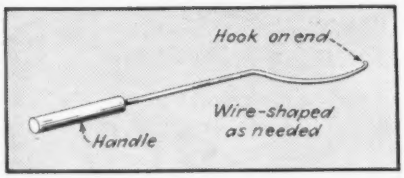
The use of short lengths of steel attached to the bottom end of a picker stick, as shown in the illustration, will lengthen the life of the stick by preventing splitting at the bolt hole.

These short lengths of steel can be cut from discarded warp drop-wire electrode separator bars, which are about the width of the stick at the point indicated. Drill holes below and above the main hole as shown. Bolt a 4-in. length of steel to the front and back with ¼-in. stove bolts. The parts can be reused. *(K-291)*

Hook on Wire Clears Stopped-Up Oil Holes

Throughout the textile mill, considerable lint often clogs up oil holes and often makes it necessary to remove certain parts in order to clear the holes. If too much lint is allowed to accumulate, oiling is often neglected; and the result is heated shafts or studs, or parts "freezing" fast.

One way of preventing clogged holes is to clear all lint or heavy grease accumulations from oil holes before oiling. The handy tool shown in the illustration can be devised for this purpose.



Tip of wire can be pointed rather than hooked, if desired.

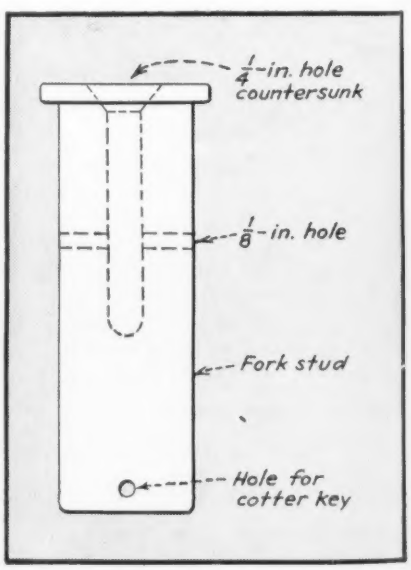
Make the tool from ⅛-in. wire in any length that will reach the bearings. The wire can be shaped into any particular bend necessary to reach into obscure locations. Make the handle from a short length of broomhandle or other hardwood.

When oiling and a clogged hole is found, merely put the sharpened end of the wire into the hole and work the lint or other dirt free. *(K-314)*

Oil Holes Reduce Wear of Friction-Fork Studs

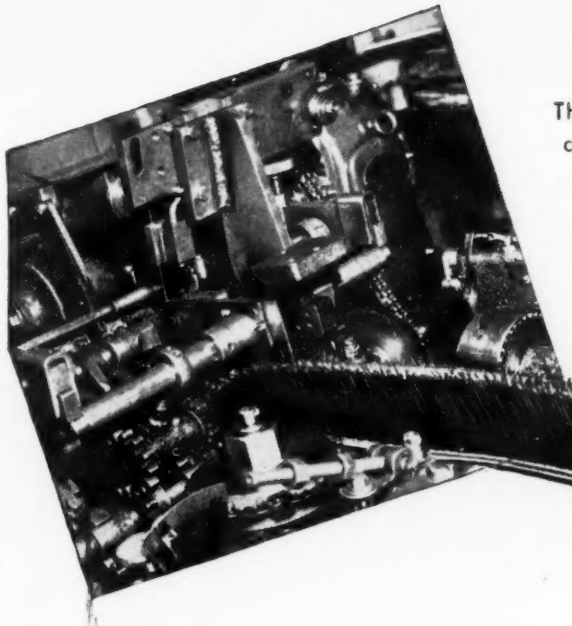
A friction-fork stud will cause much trouble when it has worn badly from lack of oil. Then, regardless of how much the fork screw is tightened, a fixer is unable to get the adjustment necessary to obtain the proper amount of friction to drive the loom.

The method to be used to keep the friction-fork stud lubricated is shown in illustration. Drill a ¼-in. hole in the center of the fork stud approximately 1¼-in. deep. Countersink the ¼-in. hole with a ½-in. drill; then, drill a ⅛-in. hole ¾ in. from the top of the stud. The ⅛-in. hole should be in the center of the fork bracket when the stud is in place. *(K-297)*



The cross hole should be in the center of the fork bracket when the stud is in use.

FULLERGRIPT BRUSH STRIPS
are made on a machine like this..



The brush material is centered over a ribbon of heavy-gauge metal and held in place by an anchoring wire and roll-formed into the finished shape as illustrated ①. Thus, as the bristles are doubled under the anchoring wire (hairpin style) and encased in metal under great pressure, permanency is assured.

FULLERGRIPT has a solid, continuous fill of material with no gaps or spaces between the bristles, resulting in much longer life and far better cleaning.

COTTON MILLS *can re-brush their* **FLAT CARDS** *with* **FULLERGRIPT BRUSH STRIPS** - which are shipped pre-formed to the correct degree of spiral (right or left hand). Your own maintenance men can easily mount them to the old brush roll.

Over 6000 Cotton Cards are equipped with our brush sets and are doing a better job of cleaning card clothing.

This is how your maintenance men renew your worn-out card brushes with FULLERGRIPT STRIPS Put worn card brush roll in lathe centers. Trim off old tufts of bristles with a sharp knife. ② Sand-paper the roll. Apply two coats of black shellac. Drill screw holes on 8″ centers and fasten the spiralled Fullergript Brush Strips with the special screws furnished with each set of strips.

EVERY WEEK some *COTTON MILL* in the United States installs one or more sets of *FULLER FLAT CARD BRUSH STRIPS*

Manville Jencks, Manville, R. I.

THE FULLER BRUSH COMPANY
INDUSTRIAL DIVISION, DEPT. 8C, 3594 MAIN ST., HARTFORD 2, CONN.

As long as free delivery of inspected yarn—without waste —is important to knitters:

NOTHING CAN REPLACE THE UNIVERSAL CONE

Photograph through courtesy of Industrial Rayon Corporation

The shape of the cone allows yarn to deliver freely without dragging over the nose end. The lay of the yarn avoids underwinds, stitches or cobwebs which cause plucks. For those reasons alone, the Universal Cone would be considered the ideal form in which to send rayon yarn to the knitting machines.

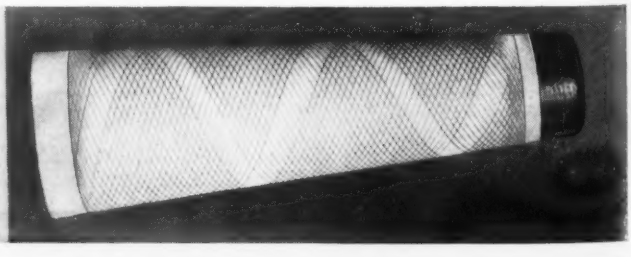
But there are other advantages knitters consider important. Yarn on Universal Cones has been inspected on the "precision" winding machine. Its compact shape makes a good shipping package—no broken noses and tangled yarn. And it reduces waste because every last inch of yarn goes into the fabric.

Universal Winding Company, Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta. See 10-page catalog in TEXTILE WORLD YEARBOOK.

LEESONA

Reg. U.S. Pat. Off.

MORE THAN 90% OF ALL SYNTHETIC FILAMENT YARN ON CONES IS WOUND ON THE UNIVERSAL "PRECISION" WINDING MACHINE



LETTERS to Pete & Bill, discussing material in this department, are paid for when published. Suggestions for the Pete & Bill dialogue will also be paid for if used. If these pages interest you, contribute something to interest others. Address PETE & BILL, Textile World, 330 West 42nd St., New York 18, N. Y.

Pete & Bill

Women as Section Hands

Can women succeed as section hands in the spinning room?

BILL, I LOST ANOTHER SECTION MAN TO DAY AND I'M GONNA MAKE ONE OUT OF THAT WOMAN THERE. THEY DO IT IN AIRCRAFT PLANTS.
A SECTION WOMAN IN THE SPINNING ROOM, HUH, PETE? WELL, SMART BOY, YOU CAN'T DO THAT.
1
WHY NOT? THE OVER HAULERS CAN DO THE HEAVY WORK, AND THIS WOMAN IS AN OLD SPINNER AND CAN FIX ENDS BETTER THAN I CAN.
YES, BUT WHAT ABOUT HER SUPERVISORY DUTIES. A SECTION MAN HAS SOME, YOU KNOW. AND THIS WOMAN WOULD HAVE A FEW DOFFERS AND AN OILER WORKING UNDER HER.
BUY BONDS
7TH WAR LOAN
2
YOU HAVE NO IMAGINATION, BILL. WHY, THIS WOMAN WAS HERE WHEN THOSE GUYS FIRST STARTED TO WORK PUSHING A BROOM. SHE'S PRACTICALLY RAISED THEM IN HERE. ALSO, IT'S PATRIOTIC TO USE WOMEN TO RELEASE MANPOWER.
IT WON'T WORK, THOUGH, PETE. AND ANOTHER THING, WHAT ABOUT THE WOMEN UNDER HER - BOY, WILL THERE BE TROUBLE WHEN THEY GET TO PULLING HAIR. IT'S YOUR FUNERAL!
KEEP YOUR CAR POOL WORKING FOR VICTORY
3
I REPEAT IT WON'T WORK, AND I BELIEVE JOE HERE WILL AGREE WITH ME
YOU'RE ON THE WRONG SIDE, BILL
BOYS, I'M ON THE FENCE. SUPPOSE WE ASK THE READERS WHAT THEY THINK ABOUT IT.
WHAT DO YOU SAY, READERS IS PETE OR BILL RIGHT?
4

Letters From Readers

The Loafer Is a Slacker

"The Chronic Absentee"
(Pete & Bill, Jan. 1945)

Dear Pete & Bill:

If a man is an habitual loafer several days each week when production is so badly needed, he is, in my opinion, a slacker.

He should know that the boys over seas are sacrificing everything they hold dear and receiving $50 a month for doing it; they cannot stay off their job in the fox holes and on the battle fronts. The soldier does not like it, but he knows he has a job to do to beat the enemy. And so has the man in the plants producing material to finish that task.

To wait until this war is finished before something is done to correct this error, I think is wrong. Now is the time to take that man aside, and have a talk with him, man to man. Show him his responsibility to his country's men fighting in blood and mud, and his responsibility to the people at home. Tell him it is vital that production be maintained. Also stress his good qualifications as a workman at his job. I am sure if he is any kind of an American he will behave differently and see things your way. (PB407)

Written Orders Not Always Possible

"Written vs. Oral Instructions"
(Pete & Bill, Feb. 1945)

Dear Pete & Bill:

I think that written instructions should be given on certain types of work, but it cannot always be done that way. For instance, an overseer in a dyeing plant cannot always work to given instructions as his work depends to a great extent on present

judgment and conditions. Although he may be dyeing from a formula, one batch of cloth may not require as many runs as the next batch of goods.

But written instructions can be given in other kinds of work, such as precision work in machine shops, etc. When such written instructions are given, the workman can't make any mistakes. When his job is completed, he can return the instructions to headquarters with the overseer's okay on the orders as having been carried out. (PB406)

Written Orders Aid the Inexperienced

"Written vs. Oral Instructions"
(Pete & Bill, Feb. 1945)

Dear Pete and Bill:

Overseers should not depend on oral instructions at any time. Especially at the present time with inexperienced help who often mistake one order for another. With written instructions, inexperienced help will generally perform their given task much better than you would expect; often much better than older hands.

Occasionally you will hear an employee, after he has received his oral instructions say, "I wish I had a secretary to write down what he said so I could refer back just in case I forget something."

SAFETY SLOGAN PRIZE-WINNER. Operative in United States Rubber Co.'s textile mills at Winnsboro, S. C., offered the slogan "Learn the easy way to be careful NOW." A contest throughout all U. S. Rubber plants focused attention on safety and brought out many striking slogans.

The writer was a bystander to an incident that happened recently as follows: The foreman was giving oral instructions to a warp hanger. "Paul, I want you to cut the warp out of loom 141 and hang it into loom 78 and then put a 600 denier into loom 141. After you get that done there are 50 cases of nylon yarn that I want moved to the storage department." Ten minutes later Paul was back and wanted the foreman to repeat the orders that he had received previously, because he had forgotten what he was supposed to do. (PB405)

Don't Be Vindictive!

"The Chronic Absentee"
(Pete & Bill, Jan. 1945)

Dear Pete & Bill:

Poor Pete! Being vindictive never gets an overseer anything but trouble! One of the best aids that an overseer can have in keeping employees on their job, is LOYALTY. If loyal, they will not take undue advantage of an overseer whom they respect. From all appearances, Pete is supposed to represent trouble; and he is well set to get plenty of it. (PB402)

Written Orders Give Efficiency

"Written vs. Oral Instructions"
(Pete & Bill, Feb. 1945)

Dear Pete & Bill:

Introduction of a simple, efficient system of written instructions to section hands from the overseer will greatly increase the efficiency of any department now using a haphazard system of transmitting instructions orally. Written instructions, kept on file, will remove a source of friction between the overseer and his section hands. (PB404)

Symposium on Waxes

COMMERCIAL WAXES, by H. Bennett; Chemical Publishing Co., 234 King St., Brooklyn, N. Y.; 567 pages; $11.00.

All classes of waxes, such as mineral, vegetable, animal, insect, synthetic, and compounded waxes are discussed in detail. The various data such as melting point, form and fracture, purity, hardness, flexibility, moldability, adhesiveness, solubility, and many other properties, including sources and uses, are all listed in this comprehensive study. Of particular value is the section on handling and compounding waxes. The tables of compatabilities of waxes with each other, as well as resins, plastics and other materials are a feature of the book.

A glossary of terms is included, as well as a wax formulary giving the most useful formulas of commercial materials containing waxes. The latter devotes considerable space to waxes and formulas for the textile industry. Water-repellent finishes, size formulas, and the use of waxes in printing are among the many subjects covered.

Problems of an Industrial Community

THE BATTLE OF HOME, by Anthony Cekota; The Macmillan Co. of Canada, Ltd., Toronto, Canada; 373 pages.

A story of how a small group of some 80 Czech technicians fled from their homeland when the Germans marched into their country and established an industrial community in Canada under the direction of Thomas Bata, the famous Czechoslovak industrialist, is related in this well-written book. The problems of establishing an industrial community are described.

It is the belief of Mr. Cekota that the home of the twentieth-century man has been created and molded by modern industry, which has broken down the geographic isolation of states and nations. The main problem of war and peace in this age is the problem of the free industrial community and the free man in industry.

Other Publications

SILVER BAY INDUSTRIAL CONFERENCE PROCEEDINGS; The Silver Bay Industrial Conference Committee, 347 Madison Ave., New York; 160 pages; 75¢.

CLASSIFIED DIRECTORY. NINTH EDITION, (Directory of consulting chemists and chemical engineers;) Association of Consulting Chemists and Chemical Engineers, Inc., 50 East 41st St., New York 17; 79 pages.

THE WRIGHT WAY IS THE *Right* WAY!

● Every hoist and every trolley and every crane in the **WRIGHT** line is designed and built to meet three basic principles: Safety—Efficiency and Economy. Safety first, of course, to both men and machine. Efficiency of operation from first to last. Economy stems from the rugged durability of **WRIGHT** equipment which makes for extremely low maintenance costs.

See your local **WRIGHT** distributor. You'll find him listed in your metropolitan classified telephone book. If your problem is special, ask your distributor to call a **WRIGHT** engineer, who has had years of experience in solving material-handling problems.

ARMY E NAVY
FLYING OVER THE WRIGHT HOIST PLANT

ACCO

York, Pa., Chicago, Denver, Los Angeles, San Francisco, Portland, New York, Bridgeport, Conn.

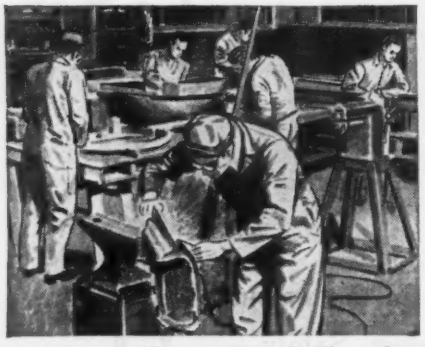
WRIGHT MANUFACTURING DIVISION
AMERICAN CHAIN & CABLE

ACCO TRADE MARK

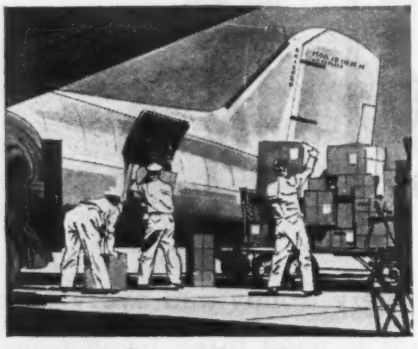
In Business for Your Safety

2-Ton Air Express Shipments Avert Lay-off of 600 men

SIX HUNDRED hard-to-get skilled workers are assembled for an experimental war production job. The supplier of special fasteners needed for the job can deliver only a limited number at a time. Does this mean a lay-off? No. The manufacturer orders a steady day-by-day flow of the units via Air Express to meet daily requirements and until there's a backlog in the warehouse.



COST is insignificant compared with results achieved ($800 Air Express charges for thirty different shipments totaling two tons). Over 600 men are kept steadily at work — to say nothing of avoiding other losses when a war plant shuts down.



SHIPMENTS, large and small, are often delivered *same day* as ordered from points 500 to 1,500 miles away. When time means money, Air Express saves both. Every business can use this *fastest delivery* with economy.

Specify Air Express — Low Cost for High Speed

25 lbs., for instance, travels more than 500 miles for $4.38, more than 1,000 miles for $8.75, more than 2,000 miles for $17.50, at a speed of three miles a minute — with cost including special pick-up and delivery in all U. S. cities and principal towns. Same-day delivery between many airport towns and cities. Rapid air-rail service to 23,000 off-airline points in the United States. Direct service to scores of foreign countries.

AIR EXPRESS

AIR EXPRESS

GETS THERE FIRST

Write Today for "Quizzical Quizz," a booklet packed with facts that will help you solve many a shipping problem. Railway Express Agency, Air Express Division, 230 Park Avenue, New York 17. Or ask for it at any Airline or Express office.

Phone RAILWAY EXPRESS AGENCY, AIR EXPRESS DIVISION

Representing the AIRLINES of the United States

Round Table

FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

Two Minus One Still Results in Just One

The device *R-118* which was illustrated in March Round Table will not add any more net turns or twists to the yarn.

Assuming that the spindle and the rotating guide revolve in opposite directions, there will be two twists imparted to that part of the yarn between the rotating guide and the spindle, which, of course, is highly desirable. However, there will also be one twist imparted to the yarn between the rotating guide and the gathering eye on the top, but this twist will be in a reversed direction and will remove the second twist which was imparted to the yarn below.

Net results—one twist. *(R-135)*

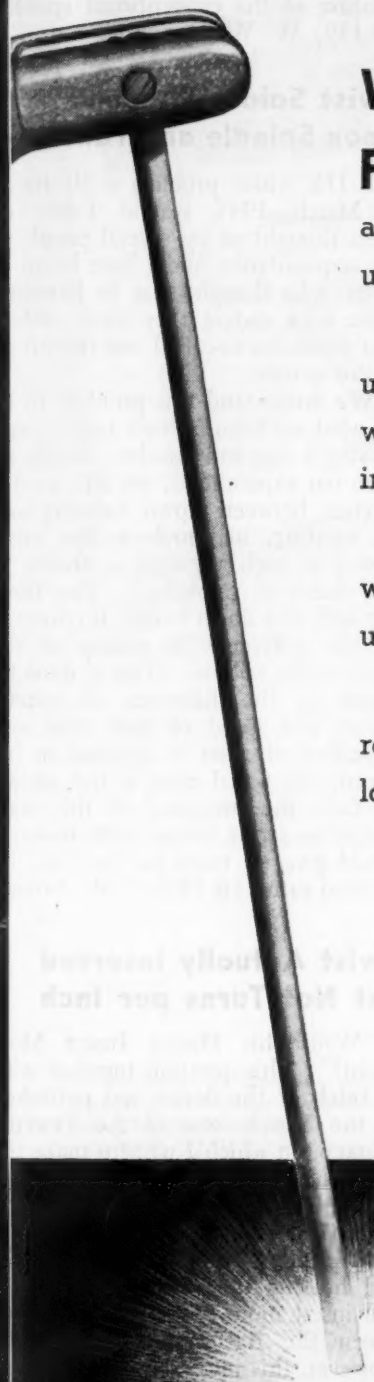
George McGee.

Device Will Not Insert More Twist

The device illustrated on page 152 of the March issue definitely will not insert more twist.

The apparatus is a variation of what is commonly known as a "false twister." The rotating guide traveling clockwise will impart twist in the

PAGE *Welding* ELECTRODES



WHY WELDERS TAKE PAGE QUALITY FOR GRANTED

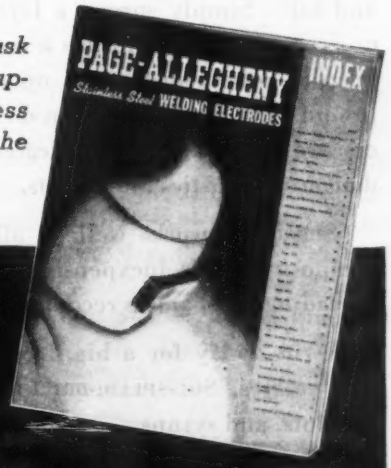
For the ticklish welding job—or any welding job for that matter—good results demand uniform electrodes.

PAGE believes that there is only one way to get real uniformity. And that is by rigid factory control of analyses, wire drawing and coating—constant factory test of welding results.

That's the **PAGE** way of making electrodes. And that's why those who know and use them take **PAGE** quality and uniformity for granted.

PAGE offers a wide range of electrodes and gas welding rods. Your **PAGE** distributor offers you the advantage of long experience in selecting the one best rod for each job.

Call your **PAGE** *distributor and ask for a copy of this new, informative, up-to-date booklet on welding stainless steel. Or, if you prefer, write to the factory for your copy.*



. . . Get in touch with Page

ACCO

Monessen, Pa., Atlanta, Chicago, Denver, Los Angeles, New York, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

ACCO TRADE MARK

PAGE STEEL AND WIRE DIVISION
AMERICAN CHAIN & CABLE

OUT OUR WAY

HEY, THERE! WHAT'S-
HE STARTED UP THERE WITH A TERRIBLE ROAR TO BAWL THAT GUY OUT FER SLEEPIN'-- NOW HE SEES TH' BROOM AND REMEMBERS JOE DOESN'T HAVE MUCH TO DO SINCE WE GOT SPEEDI-DRI!
THAT'S TH' BIRTH OF A NEW MACHINE OPERATOR RIGHT THERE! TH' BOSS BROUGHT IN SPEEDI-DRI TO STOP SLIPS AND FALLS-- NOW HE'S DISCOVERED IT'S A LABOR SAVER!
T. M. REG. U. S. PAT. OFF. COPR. 1945 BY NEA SERVICE, INC.
THE UPPER CRUST
J. R. WILLIAMS

ONE PLANT took 14 men off floor-cleaning and put them on more valuable work, after discovering SPEEDI-DRI. This new floor-cleaning material is easy to use. It soaks up oil and grease, cuts down on slips and falls. Simply spread a layer of SPEEDI-DRI wherever there's oil or grease, and it furnishes a non-skid, safe footing. After all oil has been absorbed, just sweep up the SPEEDI-DRI with an ordinary, stiff broom. Any shop porter can do this work. No trained crews of cleaners are needed. No complicated, expensive cleaning machines. No dangerous caustics or solvents.

SPEEDI-DRI works well on all types of floor: wood, concrete, or composition. It's inexpensive to use, eliminates the danger of fast-spreading fires, and is recommended by leading insurance companies.

Write today for a big, free sample. SPEEDI-DRI for ordinary oils and greases. SOL-SPEEDI-DRI for soluble oils, resins, acids, solvents, coolants, and syrups.

SUPPLIERS: East—Refiners Lubricating Co., New York 1, New York.
Midwest & South—Waverly Petroleum Products Co., Philadelphia 6, Pa.
West Coast—Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.

SPEEDI-DRI
OIL AND GREASE ABSORBENT

"Think First—Stop Accidents"

standard, or S, direction in the yarn below the guide, and in the anti-standard, or Z, direction in the yarn above the guide. These nullify each other so that the final thread will contain only the twist resulting from the rotation of the conventional spindle. (*R-139*) W. W. *Dennison.*

Twist Said to Depend Upon Spindle and Take-Up

R-118, which problem is illustrated in March, 1945, Round Table has been thought of by several people of my acquaintance, and I have heard of others who thought that by imposing some trick gadget they could obtain two twists for so-called one revolution of the spindle.

We understand this problem to be on what we term a down twister, employing a ring and traveler. However, from our experiments, we find no difference between down twisting and up twisting, inasmuch as the interposing of such a gadget as shown in the sketch as published. The turns per inch in a down twister is governed by the difference in takeup of the yarn on the bobbin. This is done by means of the difference of spindle speeds and speed of feed rolls; and regardless of what is imposed in between, additional twist is not added. In fact, the imposing of this trick gadget on a ring twister with travelers would give no turns per inch in the finished yarn. (*R-138*) C. W. *Moore.*

Twist Actually Inserted But Not Turns per Inch

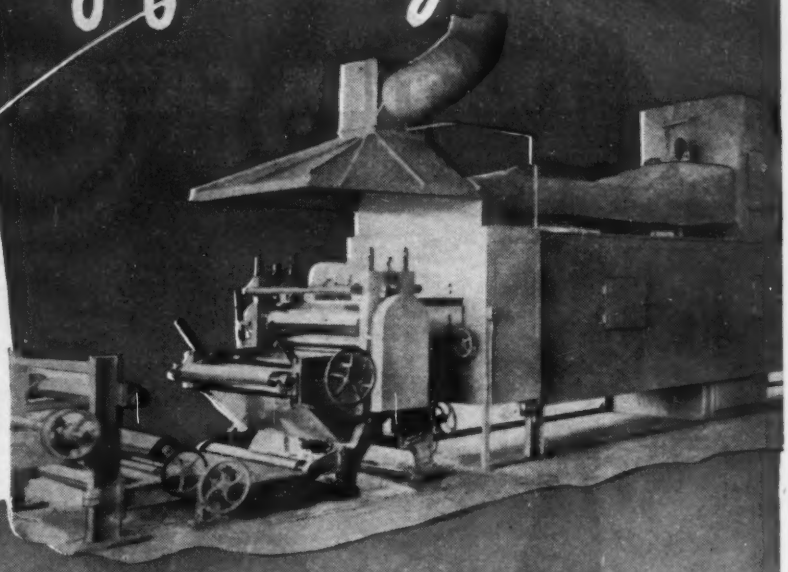
"Will This Device Insert More Twist?" This question together with a sketch of the device was published in the March issue of the TEXTILE WORLD, on which I wish to make the following comments:

There is no doubt that the rotating guide A in the sketch, when revolving in opposite direction to the spindle and holding the yarn from slipping, will insert more twist in the yarn between the traveler and the guide. However, this increased twist is counteracted by an equal amount of twist in the opposite direction above the guide A. No twist can be inserted by twisting a yarn in the center without having one of the ends revolve.

Let us assume that the spindle speed is such that it will insert 20 t.p.i. of S twist in two parallel strands of yarn. Then start revolving the guide A at the same speed and in opposite direction to that of the spindle. Provided that there is no slippage be-

PART OF THE PICTURE of famous products

Reduced reproduction of advertisement of National Vulcanized Fibre Company.



WALDRON
COATING and TREATING SYSTEMS

To be selected for making such vital fighting products as parachute fabrics and glider tow ropes, bobbins must possess all the properties required to insure fast, uniform, safe handling of the precious nylon yarn.

It is a tribute to the National Vulcanized Fibre Co. that their Phenolite laminated Bakelite Bobbins are doing this important wartime job.

For all such products, where light weight, strength and exceptional uniformity of the material are essential factors, the equipment for coating, treating, drying and curing is of basic importance. That is why these and so many similarly famous products in the paper, plastics and textile industries utilize materials coated or treated on WALDRON machines.

Investigate the possibilities in WALDRON Treaters for your material or product.

In complete machine line as shown in illustration Mechanical Treating apparatus is furnished by John Waldron Corporation. Air Processing and Drying apparatus by J. O. Ross Engineering Corporation.

Printing Machines
Combining Machines
Crepeing Machines
Floor Covering Machines
Gumming Machines
Rubber Mill Machines
Wall Paper Printing
Waxing Machines
Winders and Slitters
Special Design Machines

JOHN WALDRON CORPORATION
Main Office & Works — NEW BRUNSWICK, N. J.

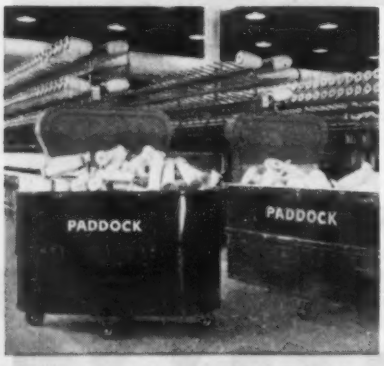
WALDRON
CONVERTING MACHINERY

Faultless

TEXTILE CASTERS

500 Series Truck Caster with Faultless Thread Guard on Plaskite Wheel. Especially designed for use on Doffing and Roving Trucks.

Streamlined Battery Fillers Trucks operate in narrowest of aisles on Faultless Casters. View in Weave Room at prominent mill.



Faultless equipped streamlined trucks in Spinning Room of a leading tire cord maker.

SPEED UP PRODUCTION AT LESS COST PER MILE

For that extra margin of output from machines and manpower, speed up supplies on snag-proof Faultless Casters. Their composition wheels are fitted with especially designed Thread Guards that prevent ravelings wedging around wheel hubs and axles—avoid breakdowns—save cleaning labor.

Faultless Caster frames are interchangeable and fit identical, standardized bolt holes—another substantial labor saver when making replacements.

Plaskite Caster Wheels are easier on floors, do not chip, corrode or mar, are quiet, immune to water and cleaning solutions. So, for that extra margin of mill output, let Faultless Textile Casters carry the load.

Write for Textile Catalog—just off the press.

FAULTLESS CASTER CORPORATION, EVANSVILLE 7, IND. • CANADA: STRATFORD, ONT.

Branches in Boston, New York, Chicago, High Point, St. Louis, Detroit, Los Angeles. In other cities consult your phone directory.

tween the guide and the yarn, the latter will be given a twist of 40 turns, not turns per inch. This may seem to bear out the theory that more twist will be inserted by the revolving guide A.

The fly in the ointment is, however, that while the revolving guide A gives more turns of twist to the yarn below it, it also will give the same amount of twist above it in the opposite direction, or Z twist, which has to be untwisted before any S twist can be inserted. Thus, the revolving guide A merely takes out the twist below and the effect of its action upon the yarn becomes nil. The revolving guide A does not, therefore, add any twist to the yarn. *(R-136) Ivar Moberg.*

Question Asked About De-Ionized Water Article

We have read with interest the very excellent article on de-ionized water which appeared in the March issue of TEXTILE WORLD. We have for some time been following the literature on this subject.

There are a few questions which I would be interested in knowing the answers to:

Are the costs given in the article the increase above the cost of the water and fixed charges, such as labor, amortization of the equipment, etc.?

What is the pH of the treated water as it leaves the de-ionizing equipment?

It has been our understanding that the water produced is extremely corrosive to ordinary materials of construction. Do you use stainless steel, glass, rubber, or materials of a similar nature for handling the effluent? *(R-140)* [An article expected to answer these questions will appear shortly.—*Ed.*]

Mill Man Tries Weaving Suggestion

The kink on deep reed mount for weaving split-basket fabrics interested me because in my mill experience I have encountered the difficulty of keeping a fabric from rolling and cutting off knots, and our overseer suggested a deep reed mount as shown in your illustration. The result was very satisfactory. *(R-127)*

Request for Short-Cuts For the Mill Machinist

I read the department "Kinks & Short-Cuts" each month and enjoy it very much. In fact some of the kinks have helped me in my line of work. I am a machinist in a textile mill and

RAYON REPORTS

Published Monthly by American Viscose Corporation, New York, N. Y. MAY, 1945

PLANT IS COMPLETELY EQUIPPED FOR TEXTILE RESEARCH

The Textile Research Department of the American Viscose Corporation, located at Marcus Hook, Pa., is equipped with machinery of all types for the handling of rayon from raw stock to finished yarn or fabric. Almost without exception, the equipment is full commercial size. The single-section, single-unit, full-fashioned hosiery knitting machine shown here is typical of the Department's facilities.

AVC SPONSORING RESEARCH FELLOWSHIP

The American Viscose Corporation is sponsoring a Rayon Launderability Research Fellowship at the American Institute of Laundering in an effort to develop complete data on the laundering characteristics of men's rayon shirts. It is hoped that the application of facts determined by this research will make it possible to establish recommended procedures for the laundering of rayon shirts that can be adopted by the laundry industry.

The Corporation is furnishing shirts that represent the basic constructions used in men's rayon shirts for testing. Using these, laundering tests are being conducted to determine the influence of various laundering procedures on shrinkage, color retention, soil removal, and wet and dry tensile strength. In addition, the fabrics will be evaluated generally in terms of hand, finish and appearance.

WPB ORDERS INCREASED RAYON TIRE YARN OUTPUT

The War Production Board has issued directives calling for an additional production of rayon tire yarn of 48 million pounds annually. This is in addition to the program of 240 million pounds already ordered.

The nation's largest producer of rayon tire yarn, the American Viscose Corporation, will deliver 46 million pounds of the extra requirement. This company is already furnishing about 50% of the nation's rayon tire yarn.

Some of the new demand will be filled by using equipment in the Front Royal, Va., plant of the American Viscose Corporation that was originally installed for rayon staple fiber production.

FOUR ADVERTISING PROGRAMS REPORTED IN DETAIL

Four booklets covering four phases of the American Viscose Corporation 1944 advertising program are being made available.

The booklet titled "Rayon Tells Its Story to the Public" contains advertisements addressed to a large and influential section of the public, telling how Rayon and "Vinyon"**—through continuous research—are becoming increasingly important to the life and welfare of America.

"CROWN Tested Merchandise Highlights" is a group of advertisements to show the trade and the public that "CROWN" Tested Fabrics are going into a wide variety of fashionable, serviceable merchandise. These ads picture apparel in a manner appropriate to the publications in which they appear, and give credit to the converter, finisher, manufacturer and retailers involved.

"True Stories About Untrue Ideas" is a series of advertisements in leading retail journals calling attention to the salesperson's need for rayon information. Each ad tells a true story about an *untrue* idea as overheard in an actual sales talk.

"CROWN Tested Case Histories of 1944" are reported in a series of advertisements to converters and garment manufacturers. They explain the operation of the "Crown" Tested Plan by telling case histories of new fabrics brought under the plan as a result of technical cooperation between converter, finisher and American Viscose Corporation.

To obtain copies, write the American Viscose Corporation, 350 Fifth Avenue, New York 1, N. Y., stating the titles of booklets desired. **T. M.—C. & C. C.

MAKE USE OF 4-PLY SERVICE

1 PRODUCT RESEARCH
Helps you get the right yarn or fiber.

2 FABRIC DEVELOPMENT
Helps you design new fabrics.

3 TEXTILE RESEARCH
Helps solve production and finishing problems.

4 "CROWN*" TESTED
Helps provide scientific selling facts.

AMERICAN VISCOSE CORPORATION

America's Largest Producer of Rayon Yarns and Staple Fibers

Sales Offices: 350 Fifth Avenue, N. Y. C. 1; Providence, R. I.; Charlotte, N. C.; Philadelphia, Pa.

Plants at: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

*Reg. U. S. Pat. Off.

standardize your fire equipment

Here's a real fire demon . . . water feeds it . . . other chemicals add to the flames

Pyrene G-1 KILLS IT!

Water causes it to flash and flame up like a fire bomb. The usual fire extinguishers merely add to the combustion. It's a real fire devil. But Pyrene G-1 is standardized protection for this hazard. Developed and designed to kill magnesium fires.

HOW YOU GET MAXIMUM FIRE PROTECTION BY STANDARDIZING ON PYRENE

All Pyrene Fire Extinguishers are precision built of durable materials to give fast positive action on fires and long life for the equipment. The instructions for operation and care are simply stated and plainly stamped on the face of the extinguisher. 38 years of experience, creating, developing and testing new ideas for Fire Protection stand firmly behind the production of standardized Pyrene Equipment for every Fire Hazard. All Pyrene Fire Equipment has been tested, listed and labeled by the Underwriters' Laboratories, Inc., and approved by Factory Mutuals. Standardize, be safe with Pyrene.

BY THE WAY: WHEN DID YOU LAST TEST THE FIRE EXTINGUISHERS IN YOUR HOME?

Pyrene Manufacturing Company
Founded 1907
NEWARK 8, NEW JERSEY
AFFILIATED WITH THE C-O-TWO FIRE EQUIPMENT CO.

am always having to make lots of changes and setups on lathes, etc. When you have a few short-cuts in doing this, especially these times when we have so much repairing to do, it helps a great deal. (*R-133*) *S. J. Phillips, Jr.*

Closer Cooperation Seen Due to Resin Finishes

"As resins and other products of chemical research become increasingly important in the textile field, it seems inevitable that closer cooperation will develop between the designer, converter, finisher, and mill man among themselves, and as a group, with the resin and chemical manufacturers. Two rather new developments will practically dictate this cooperation. Consumer consciousness of the value of quality, and informative labelling of goods will be two factors of outstanding influence in the future. Both will place premiums on performance and will tend to eliminate wishful advertising. The only basis for preferential purchasing will be equal value." (*R-136*) *Dr. J. Edward Lynn.*

(The foregoing interesting paragraph on the use of resins in finishing was deleted, due to space limitations, from the article by Dr. Lynn in the April issue of TEXTILE WORLD—*Ed.*)

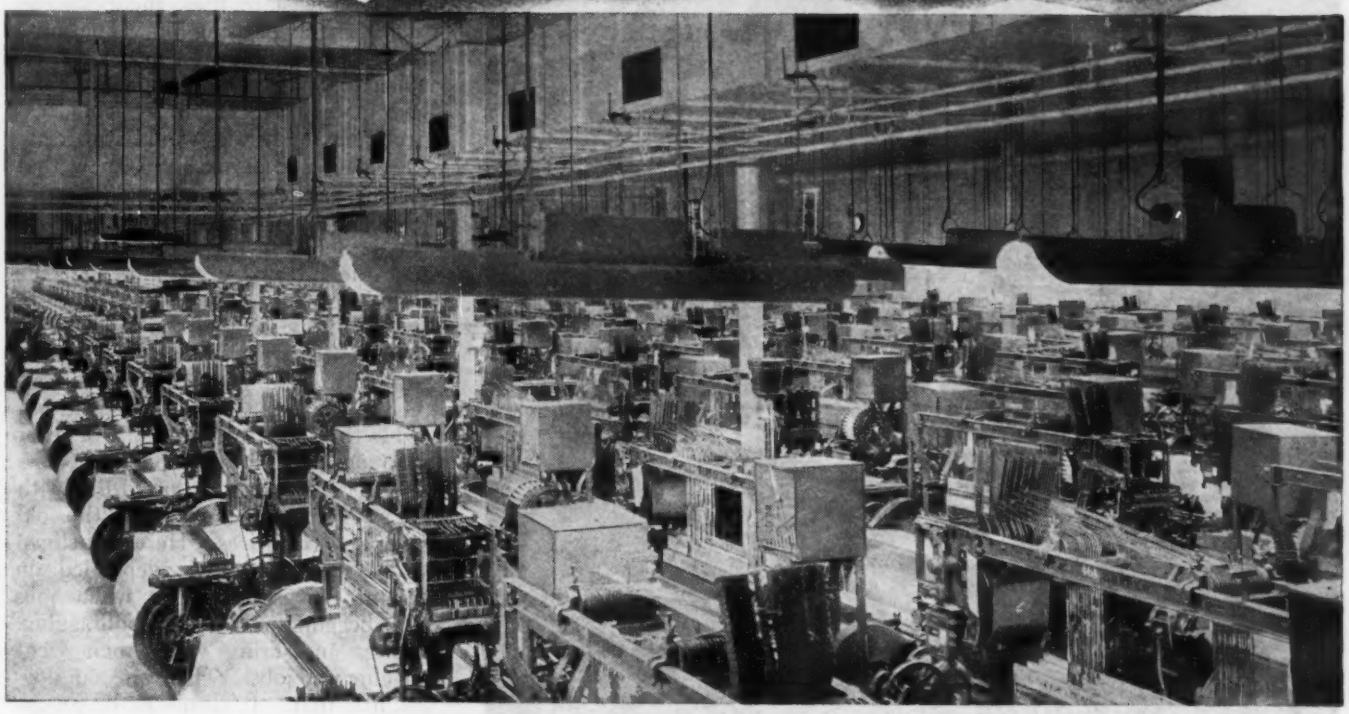
Mill Man Asks for Written Agreements

After reading in TEXTILE WORLD, H. G. Bradshaw's article "Pointers on Building Good Employee Relations," I felt an urge to write on this subject. So here is my thirty-some years' observation of handling labor in the hosiery mill. And what phase of the hosiery mill is more important than practical employee relations?

One Saturday afternoon in June, I had just walked out of a corner drug store in a Southern city when I ran across a former employer of mine just getting off a street car. After the customary greetings and mutual inquiries about health and, of course, talking shop, I soon learned that my former boss was badly in need of a man for the finishing department at his hosiery mill. Finally he came to the point: he asked me if I would be interested in making a change of jobs—taking a job in his finishing room. When I broached the question of my salary and obligations, he replied: "You know me; I'll do what's right about it."

Yes, I knew him. I knew too, that his idea of what was right might be

SAVED { 9% MORE TOP GRADE PRODUCTION
5 HOURS PER LOOM, PER MONTH
6 YARDS PER LOOM, PER MONTH



That's the remarkable record made by Precipitron* in one large Southern mill. That's also a competitive advantage that will be hard to beat when normal marketing conditions return after the war. Let's look at this record—

9% More Top-Grade Production—By removing air-borne dust, soot and smoke from twister and weave rooms, Precipitron enabled this mill to reduce its average winter production of dark shades from 14.7% to 5.6%. And mill officials believe increased Precipitron capacity will provide further reduction!

5 Hours Per Loom, Per Month—Before Precipitrons were installed in the weave room it was necessary to stop and clean reeds at every cutmark. After Precipitrons, this 15 minute operation was eliminated and reeds are now cleaned only when the warp is changed.

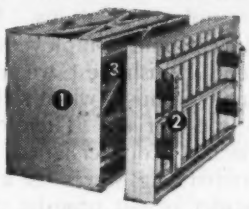
6 Yards Per Loom, Per Month—When reeds are cleaned at each cutmark about 10 inches of fabric are ruined. The elimination of this operation provides this saving.

Consider these impressive figures. Apply them to your production and to the number of looms in your mill and you will realize why Precipitron *pays for itself.* Precipitron, the electronic air cleaner, removes air-borne particles as small as 1/250,000 of an inch . . . delivers air 90% cleaner.

For more complete information call any Westinghouse Office, or write Westinghouse, P. O. Box 868, Pittsburgh 30, Pa.

J-04507

HOW PRECIPITRON WORKS

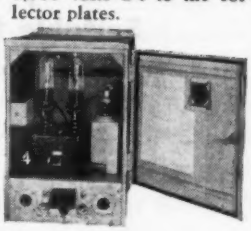


1. A Precipitron cell with ionizer (2) detached to permit a view of the vertical collector plates inside the cell.

2. High-voltage wire creates an electrostatic field at the front of the Precipitron cell, charging all dust and dirt particles as they enter.

3. The charged particles are drawn to and precipitated on the vertical collector plates which are easily cleaned by flushing.

4. The Precipitron power pack charges ionizer (2) and collector plates (3) . . . provides 13,000 volts d-c to set up the electrostatic field and 6,000 volts d-c to the collector plates.



No Moving Parts

LOW POWER COST

*Trademark registered in U. S. A.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

PRECIPITRON

BETTER HEALTH "IN THE PALM OF HIS HAND"

LAN-O-KLEEN

Hundreds of thousands of men and women in factories all over America acclaim Lan-O-Kleen* because it gets rid of dirt and grime so easily, effectively, and actually leaves their hands feeling better. But of even greater importance is the fact that this remarkable powdered soap is doing so much to help prevent occupational skin diseases, because it does its job of cleansing the hands so *mildly* and without injury to the skin's surface.

Lan-O-Kleen is the first industrial hand soap to provide a full measure of the double action of effective cleansing and proper superfatting with soothing, protecting lanolin. It is a powdered soap of mildly alkaline reaction compounded with granular corn-meal which has been impregnated, by an exclusive process, with anhydrous lanolin. In its use, the lanolin in Lan-O-Kleen buffers the mild alkaline reaction of the soap (necessary for proper cleaning), protecting the natural oil film of the skin and leaving the hands ready for top-speed production.

Send for FREE Booklet

* Reg. U. S. Pat. Off.

WEST DISINFECTING Company

42-16 WEST ST. • LONG ISLAND CITY 1 • N. Y. • DEPT. TW

acceptable to me one month, and quite the reverse the next month, depending on circumstances. I knew that when there was a ready market for hosiery and a comfortable margin of profit on the product, he was easy to get along with. But let business get slow and the margin of profit get dangerously slim; then there was no such thing as pleasing him. The more effort I would put forth to increase efficiency, improve the quality, and save material, the more he would expect, and the less he would appreciate what I did accomplish. I knew that when I had him on the spot he was a nice fellow and very agreeable; but when the tables were turned and he had the advantage of me, then he would be just as tough as I. I knew the only way we two could get along consistently was through a covenant mutually binding—a written agreement specifying salary, obligations, rights for one year, two years, or what was considered most expedient.

Did he sign on the dotted line with me? No. He belonged to the old school of executives. He was inclined to be capricious. He depended on cajoling his subordinates when jobs were begging for men; and bullragging, hiring, and firing when men went begging for jobs. There are employers like that. It seems to be an inherent weakness of human nature. It is this caprice in executives and subordinates that makes periodic contracts and the seniority rule necessary in employee relations. Not that employers and employees are fundamentally dishonest; we are all prone to forget promises when self-interest gets the best of us. Therefore, a written contract countersigned in our own handwriting serves as a constant reminder of our promise of good faith. (*R-141*)

Take-Up and Let-Off Suitable for Monofilaments

I noted with interest the article appearing in the February issue of TEXTILE WORLD on plastic monofilaments.

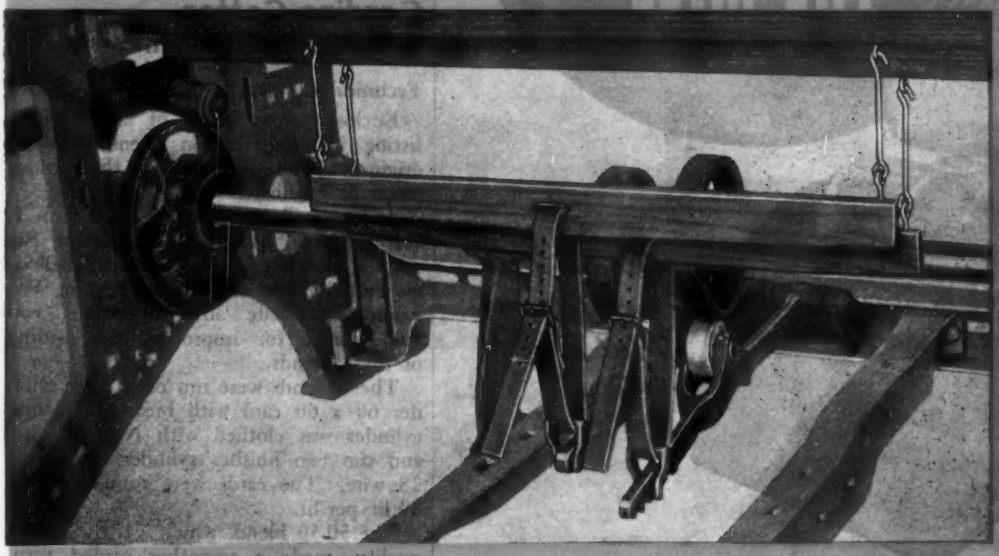
I have a patented take-up and let-off that would work into the weaving of plastic monofilaments. It is a precision unit, and can be adapted to any type of loom. No pick gears are required, you set the take-up to work in conjunction with the let-off, and the dial arm can be set for 1 pick or 1,000 picks.

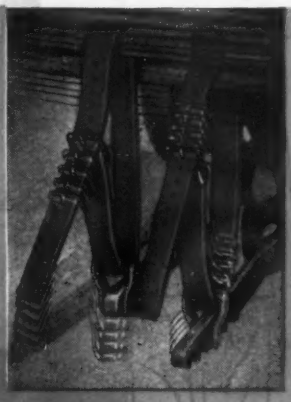
I have a working model, and might add that it has been tested on rayon and has worked satisfactorily. (*R-137*)
Joseph R. L. Cosgrove.

LOOM LEATHER POINTERS No. 1
JACK STRAPS

The first in a series discussing the performance requirements of loom leathers:

REPEATED PULLING like this





calls for a JACK STRAP like this

The Problem: to pull down the harness one to two times each second, exerting effort against the resistance of the other harness which it has to *lift*.

Service Requirements: high tensile strength to withstand the repeated strain of being pulled each time the harness cam forces the treadle down . . . maximum resistance to flexing wear at the points where the strap passes through the stirrup and through the jack stick . . . high tear strength to avoid trouble at the buckle.

The Solution: Graton & Knight's "Hairitan" leather. This special "Hairitan" tannage develops tensile strength averaging over 6500 lbs. Each lot is tested on the Olsen Machine to make certain it has this desired tensile strength. It has extreme toughness coupled with flexibility. Fibre structure is tight and strong to resist tearing.

"Hairitan" is acknowledged the equal of any "European-type" hair-on leather.

All products in Graton & Knight's ORANGE LINE of "Hairitan" loom leathers — pickers, check straps and other straps — are identified by orange color on the flesh side. This signifies *one quality control from hide to loom* — by the world's largest manufacturer of industrial leathers. Write for catalog on Graton & Knight textile leathers. Graton & Knight, 326 Franklin Street, Worcester 4, Massachusetts.

GRATON AND KNIGHT

ORANGE LINE LOOM LEATHERS

A complete line manufactured under one control from green hide to loom. Supplied by the leading distributors in the textile industry. Look under "Graton & Knight" in "Belting" section of Classified Telephone Directory or THOMAS' REGISTER. See complete catalog in TEXTILE WORLD YEARBOOK.

When you see this man, YOU KNOW MANAGEMENT TAKES PRIDE IN THE MILL

Where Mill Floors Gleam Mill Profits Grow!

FAST, low-cost cleaning with the Tennant floor machine keeps this floor spotless. No production interruption.

NOTE high light reflection from Tennant-Cleaned floors in a textile mill.

● Executives who take pride in their mills realize that well maintained floors are an asset because they provide *better light, greater efficiency, added safety and good, sound working surfaces.*

The Tennant System, using a technique of "dry cleaning" has shown these executives how to change dark, frayed floors into hard, light-reflecting surfaces. Outmoded scrubbing and mopping are eliminated by the burnishing action of steel wool which removes dirt and grime from the floor surface. Soilage is picked up at the same time. Floors are left clean, non-slippery and wear-resistant.

It's good business, too, in the estimation of the thrifty mill owner. The Tennant System can reduce floor cleaning costs as much as 50%; it also cuts floor patching and repairs to a minimum. The Tennant System actually saves money by improving mill operating conditions with floors that are clean, hard and long-wearing.

WRITE TODAY for Tennant's new book "Your Floors Are Important to Your Mill's Production."

G. H. TENNANT COMPANY
2586 North Second St.
Minneapolis, Minn.

The way to finer floors
TENNANT
Floor Maintenance System

Questions and Answers

Carding Cotton on Woolen System

Technical Editor:

Enclosed are a group of samples consisting of two cotton blends—in the original blends and also in the various stages of carding.

As you will note, the finished yarn is very pilly and weak; and considering the original quality of the cotton used, believe we should expect a much better yarn. We would appreciate any suggestions you could make for improving the carding of these blends.

These blends were run on a three-cylinder 60 x 60 card with breast. The first cylinder was clothed with No. 26 wire, and the two finisher cylinders with No. 28 wire. The cards were running about 80 lb. per hr.

The 50-50 blend, which was the poorer quality, made a smoother carded yarn, although the smoother yarn is weaker than the pilly yarn; and it also ran poorer on the mule. (9038)

The inquiry fails to state the grain weight of the roving which is taken from the card and delivered to the mules. That weight is very important because it appears, from the samples, that the mill is trying to draft or stretch the roving too much. Make as light a roving as possible off the card and simply try to twist on the mule, for better results.

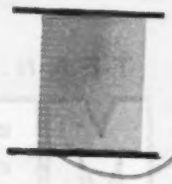
Cotton has a tendency to pack into card clothing on a cylinder; and the carder is prevented from using an emulsion, as customarily used on wool blends, to hold the stock together. It is suggested that the batch be dampened with a little water. In the setting of cards, set the fancy just as deep into the cylinder as possible in order to lift the stock and keep the cylinder clean.

Damaged Knitted Cloth

Technical Editor:

We are having trouble with damaged cloth which our knitter claims is due to poor yarn. We made our complaint to the cotton mill. It claims our trouble is not due to the yarn but states its can

why we talk about SARAN fabrics now



We at Dow are naturally enthusiastic about the future of fabrics woven from Saran monofilaments. We feel that it will be widely used after the war for textile applications requiring its specific advantages. Therefore, we are calling it to your attention *now* so that you can investigate its possibilities and determine how it fits into your plans.

What are those advantages? Foremost among them, perhaps, is Saran's ability to take punishment and still come up shining. It shrugs off dirt, ink, grease, most acids and similar substances that are ruinous to ordinary fabrics. It can be wiped clean with a damp cloth. It doesn't fade in the sun or discolor. It resists abrasion and wears indefinitely.

We think these qualities point to the use of Saran in a wide range of colors in such applications as bus seats, upholstery, draperies, luggage and similar products.

Saran was developed by Dow for the textile industry. Why not get acquainted with it?

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

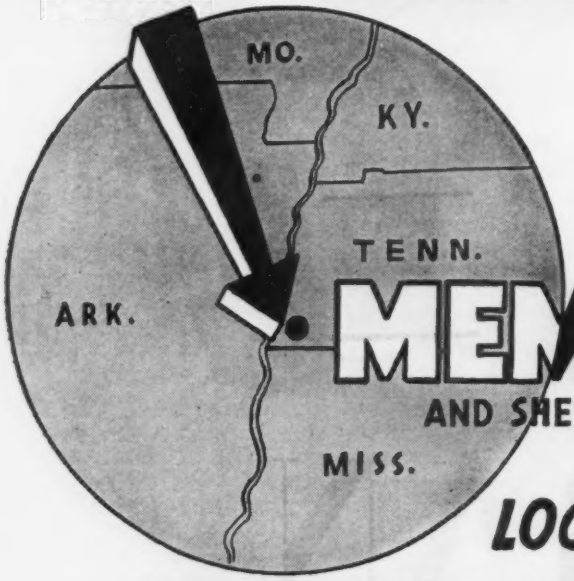
AVAILABLE THROUGH LICENSEES

Saran molding compounds, produced by Dow, are extruded as monofilaments or thread by skilled licensees located throughout the country. All of them are in a position to give you details about Saran and its possibilities. These licensees include:

- ★ Allied Plastics Co., Los Angeles, California
- ★ Firestone Tire & Rubber Company, Akron, Ohio
- ★ Hodgman Rubber Company, Framingham, Mass.
- ★ Irvington Varnish & Insulator Co., Irvington, N. J.
- ★ National Plastics Products Co., Odenton, Md.
- ★ Visking Corporation, Chicago, Illinois (merchandised under the name Permalon)
- ★ Western Felt Works, Chicago, Illinois

DOW PLASTICS

POINT YOUR PLANS



to

MEMPHIS
AND SHELBY COUNTY

LOCATE FOR
INDUSTRIAL ADVANTAGES

- **STRATEGICALLY LOCATED**—With exceptional rail, truck, water and air facilities.
- **ATTRACTIVE INDUSTRIAL SITES**—Large areas zoned in various sections of city and county for industrial purposes.
- **HYDRO-ELECTRIC POWER - NATURAL GAS - PURE ARTESIAN WATER**—Municipally owned—operated at low rates.
- **FAVORABLE LABOR RELATIONS**—About 90% population native born. Relations of labor and management highly cooperative.
- **LOW TAXES**—Efficient, honest city and county government, cooperative with business and industry.
- **RESOURCES**—Close to mineral, timber, and agricultural resources.
- **MILD CLIMATE**—Provides most favorable working conditions for skilled and unskilled labor.
- **FIRST IN HEALTH**—City and county health programs have won top awards for five successive years in nation-wide campaigns.

MEMPHIS
AND SHELBY COUNTY

A Great Place to Locate
A Great Place to Live

WRITE FOR "1944 INDUSTRIAL SURVEY OF MEMPHIS"
ALL NEGOTIATIONS CONFIDENTIAL

address

Walter Chandler
MAYOR
OF MEMPHIS

or

E. W. Hale
CHAIRMAN SHELBY COUNTY
COMMISSIONERS

be caused as follows: "Our experience on such with latch needle machines prompts us to say that dropped stitches can be caused from many reasons.

"1. One cause for same is that the outside design wheels could be out of time.

"2. If the yarn is not measured off to see that it pays off equally from each cone to the needle, this also will cause dropped stitches, for the stitches have to be regulated so that each needle will take the same amount of yarn in the same time.

"3. If the tuck bar on the wheel should be knocked out of position when cleaning, this also will cause same.

"4. At times we found it necessary to clean the machines absolutely thoroughly in all parts, moving and otherwise, especially the sinker slots, in order to allow the sinkers to move freely. It should also be kept in mind that the sinkers cannot be worn too badly as they do wear very rapidly."

In connection with the last paragraph, we wish to state that prior to this trouble our machines were thoroughly cleaned and reneedled.

The following is information regarding the type machines we are using: 24 in. Supreme knitting machine, sinker top, latch needle, circular, 1104 needles in the cylinder, 14.7 cut, 42-gauge needle, 96-cut pattern wheels using two patterns wheels tucking on the same needle followed by a blank casting off preceding stitches. At the present time we are using 12/1 carded raw-stock-dyed yarn, sulphur color.

We shall appreciate your opinion as to whether the mill is mechanically correct. Any advice you can give us will be very much appreciated. (9042)

Without checking a sample of the knitted fabric and the yarn in question, it is impossible to state definitely whether it is the poor yarn that is causing the trouble or if it is caused by incorrect machine adjustments. Therefore, we cannot affirm nor deny the four suggestions by the cotton mill that supplied the yarn.

At the present time, knitters on civilian orders are getting some bad yarn. It does not sound reasonable that the average fixer would suddenly allow all of his machines to get out of adjustment or repair and then blame the trouble on the spinners. Usually a knitter on any class of machine knows when it is the yarn that is causing a bad fabric and when it is the machine.

The yarn in question is carded and raw-stock dyed. It has been my experience on hosiery machines that carded raw-stock-dyed yarn does not run well on sinker reverse-plated work. I prefer combed stock of medium-staple cotton that has been dyed in the package. It seems that dyeing the cotton in the raw, then carding it and

Every salesman who offers merchandise made by the mills we sell for brings to that buyer, not only the merchandise but also Ingenuity and Judgement based on long experience.

BRANCH OFFICES

CHICAGO, ILL. . . *1375 Merchandise Mart*
BOSTON, MASS. . . . . *99 Chauncy St.*
NEW ORLEANS, LA. . . . *201 Balter Bldg.*
PHILADELPHIA, PA. . . *1336 Widener Bldg.*
ATLANTA, GA. . . . *216-217 Walton Bldg.*
ST. LOUIS, MO. . . . . *915 Olive Street*
SAN FRANCISCO, CALIF. . . *833 Market St.*

SELLING AGENTS

ISELIN-JEFFERSON COMPANY

90 WORTH STREET, NEW YORK CITY

William Iselin & Co., Inc., Factors

"THROUGH THE MILL"

ADDING SPICE to conversation or writing are those picturesque phrases that conjure up a graphic image.

None draws a more vivid picture of competency than "through the mill".

Though it may have originated in some other trade, it is aptly applied to men who have painstakingly learned the ways and means of producing and distributing cotton textiles.

We, and the mills which we represent, have indeed been "through the mill".

We have seen and experienced a gamut of changing conditions in raw materials, in processes and production, in personnel relations, in methods of distribution, in credits and finance. Together we have met supply and demand at every point in the economic cycle.

Yet we have always remembered that blind adherence to past principles may lead up dangerous alleys. For which reason, we constantly refresh ourselves on every phase of our often intricate, always interesting business. And keep watch that new conditions are anticipated.

Perhaps *your* future plans call for the services of selling agents who are old in experience and young in vision; who have not only been "through the mill", but who see what lies beyond the gate.

MINOT HOOPER & COMPANY

Selling Agents, 40 Worth Street, New York City

(established 1841)

BOSTON • CHICAGO • SAN FRANCISCO • ATLANTA

spinning tends to weaken the yarn.

Mills are short handed these days, and new help may be a contributing cause. Then the fault may be in the winding room at the mill. It is possible that the operatives are using "goose-head" knots on the cones, and these are too bulky to pass the needles on the knitting machine. Knots and bunches in the yarn can cause broken hooks, bent latches, holes in the fabric, drop-stitches, streaks and distorted stitches, and a lot of bad knitting.

Another contributor states:

It is, of course, difficult to identify the cause without examination of the fabrics. It is possible that the application of sulphur colors is causing the yarn to tender due to lack of after-treatment. Check the yarn for presence of free H_2SO_4 which could develop during storage of the yarn prior to use on the machine.

From the description of the inquirer, it would seem that the knitter is doing all the usual checking of vital places but no assurance is given that the yarn supplier is checking his processes.

Resist Stains in Cotton Finishing

Technical Editor:

We are having trouble with resist stains in our bleached cloth from the white bins in the bleachhouse. These bins are made of concrete and we are considering lining them with glazed white tile. However, it has occurred to us that there may be some coating that can be applied to the concrete walls, or sheets of plastic material, or some more recently developed material which would be equally effective and at the same time less costly and more easily applied. (9033)

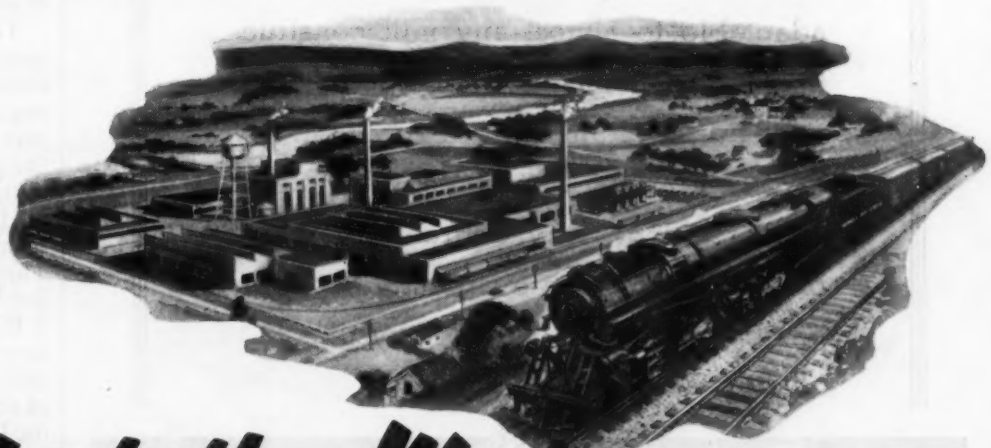
The writer has been endeavoring to get exactly the same information you are asking for, namely, whether it is possible to coat white bins, chemic bins, sour bins, etc., with a plastic material, either in sheet form or by liquid application.

To our knowledge, no bleacheries or print works have made use of plastics for this purpose, though several groups of synthetic resins or mixtures thereof seem to possess the necessary physical and chemical properties. As you undoubtedly know, the availability of certain plastic materials has been, and still is, under restriction. Even though one is able to offer a MRO rating of AA-2, this is no guarantee that plastic compositions can be obtained.

Two large finishing plants, of which we know, have lined their white bins with glazed tile as you are contemplating doing, and their experience with

Once man clothed himself in the skins of wild animals — a relatively simple way of obtaining his "wearing apparel." But that has been a long, long time ago. Today, the demands for clothing can be met only by a textile industry that is highly specialized. Modern textile machines perform industrial miracles under the guiding hands of skilled workers employing modern methods. The textile industry did not reach its present stage of productive excellence over night. It resulted not only from the work of trained employees using efficient machines, but from continuous research and experiment by textile scientists who had ready access to raw materials and a ready market for finished products.

The Norfolk and Western serves the textile industry with efficient, economical, speedy and safe transportation. Many textile industries have located and prospered in Norfolk and Western territory, where there are ample resources and raw materials, plenty of power and desirable sites for plants—an abundance of skilled and unskilled native labor and tax policies that are friendly to the industry.



If you are thinking of locating or relocating your textile plant, investigate Norfolk and Western territory now — hundreds of textile operators have found that it has many outstanding advantages.

Norfolk and Western
RAILWAY
FOR BETTER PLANT LOCATIONS

RIGHT DOWN YOUR ALLEY

with BAHNSON
AIR-VITALIZER SYSTEM
combined with
Bahnson Humidifiers

The Bahnson Vitalizer puts conditioned air down at the "Trouble Levels." It is adaptable to almost any mill construction and can be used in conjunction with your present humidification system.

It combines Heating, Ventilating and air screening. Any degree of cooling obtainable through evaporative cooling can be maintained with this system.

Bahnson System
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.

886 Drewry St. Atlanta, Ga. | 93 Worth St. New York City | 703 Embree Crescent Westfield, N. J. | 976 W. 6th St. Los Angeles, Cal. | W. J. Westaway Co., Ltd. Hamilton, Ontario

this material has been eminently satisfactory. However, we understand from one plant that the cement that was used for bonding the tile caused some difficulty because of its leaching out and the tiles coming loose. We have heard of another plant which is thinking of using glass brick for the purpose of lining their bins. Both of these materials, because of their smoothness and chemical resistance, tend to reduce "rub marks" as well as eliminate pit stains.

In many cases the manufacturers of the base resins do not provide them in a form suitable for an end-use such as you are planning, but rather these plastic materials are sold to others who compound them into paints, lacquers, molded products, etc.

Resin Finishes for Flax Fabrics

Technical Editor:

We would appreciate it if you could give us some information on whether fabrics composed of flax and hemp can be handled with success with the T. B. L. finish. (9032)

Flax fabric or linen has been successfully impregnated with synthetic resins and branded Tebilized. Before the war, most linen garments were of Tebilized linen. We have not, however, heard of impregnating hemp fibers with this formula.

This inquiry, referring to the treatment of fabrics made of flax and hemp by the T.B.L. process, is one that could be answered in several different ways, since we are not sure whether you are referring to fabrics made of flax only, and hemp only, or of mixtures thereof.

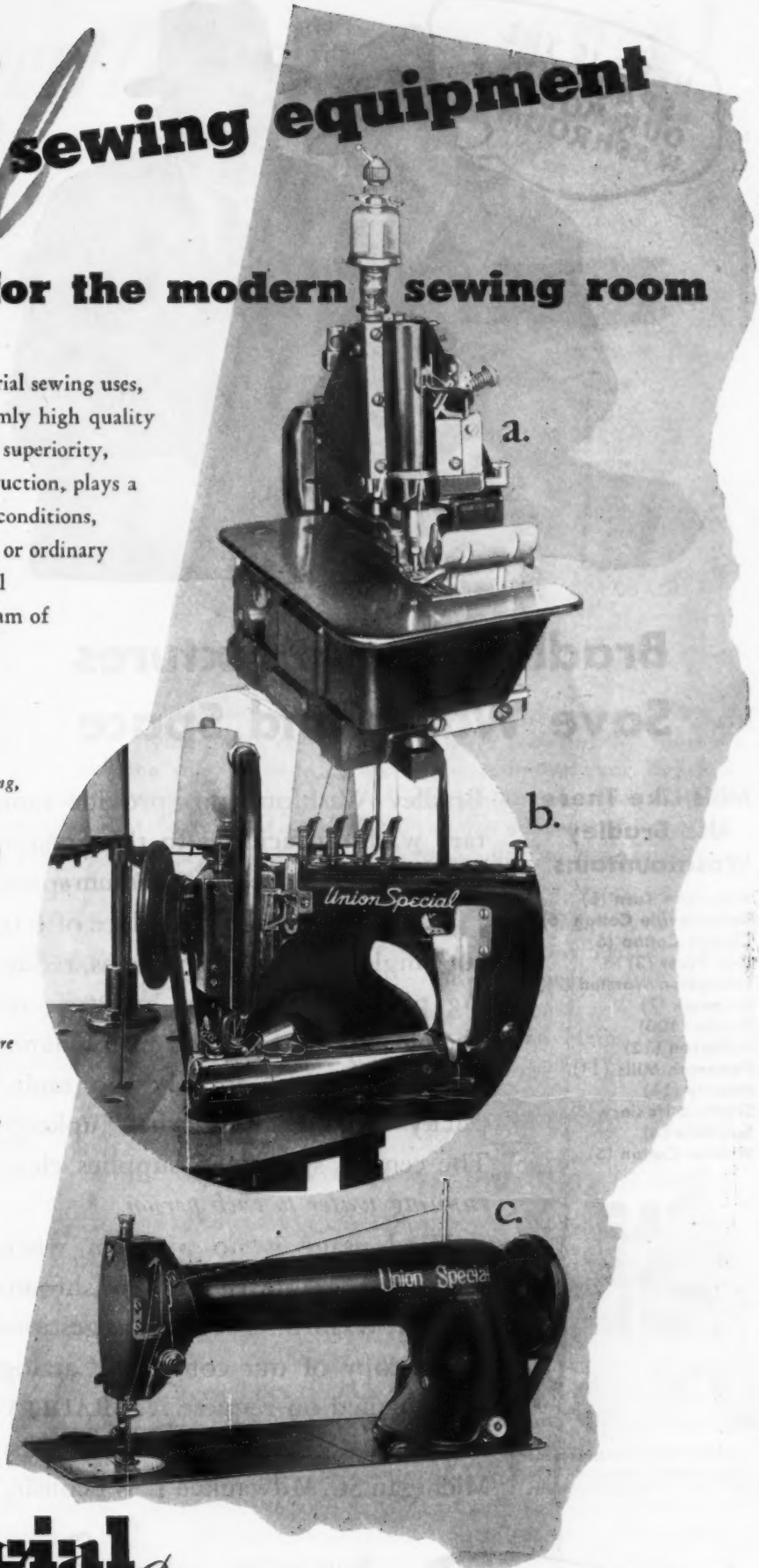
The T.B.L. finish is one to make the goods meet certain requirements for crush-proofing and shrinkage, but the original idea of the finish was to impart crush-resistant characteristics to the fabric. For this purpose, synthetic resins of the thermosetting types were used. The most successful among them were the urea-formaldehydes. This group of resins was among the first to satisfy the requirements of the T.B.L. finish. At the same time, they possess such desirable characteristics as clarity of film and relative ease of application. Such resins are widely used for the purpose of controlling shrinkage and improving crush-resistance on a variety of fabrics.

We understand they may be successfully applied to many linen fabrics in much the same manner as they are on spun rayons. However, on fabrics

Essential sewing equipment

...for the modern sewing room

DESIGNED for a wide variety of industrial sewing uses, Union Special machines produce uniformly high quality work at low operating cost. Mechanical superiority, based on excellence of design and construction, plays a big role in their dependability under all conditions, whether due to war production demands or ordinary competition. Consult your Union Special representative when considering a program of improvement for your sewing rooms.



a. *Union Special Overseamers*

Union Special Class 39200 machines offer exclusive advantages for overseaming, overedging, blind stitch welting, and hemming on all types of fabric, heavy or light, woven or knitted. These machines allow split second starting and stopping on short runs, and operate smoothly and quietly at all times.

b. *Union Special Class 35800 Machines*

For all tubular felling operations Union Special Class 35800 feed-off-the-arm machines are first choice in leading plants. Good basic design and continuous improvement have kept them in the lead. They feature more underarm space, easier threading, more positive feed, reduced vibration and improved lubrication.*

C. *Union Special LOCKSTITCH*

The Union Special Lockstitch Class 61300 is for all plain sewing on all types and weights of fabric. It is individualized by its simplicity of design, exclusive lubrication system, leakproof transmission sealed in oil, positive feed for uniformity in stitching, and dual main shafts.

Govt. regulations do not permit 3-needle seaming at this time.

Union Special Machine Company

486 North Franklin Street • Chicago 10, Illinois

Bradley Group Fixtures Save Water and Space

Mills Like These Use Bradley Washfountains

American Yarn (6)
Barnettsville Cotton (6)
Clinton Cotton (5)
Dan River (3)
Livingston Worsted (7)
Mohawk (7)
Pacific (100)
Patterson (12)
Ponemah Mills (11)
Priority (11)
Shefford Hosiery (8)
Spindale (4)
Whittier Cotton (3)

Bradley Washfountains serve clean *running* water to each of 8 to 10 simultaneously.

Bradley Washfountains provide sanitary washing facilities to the greatest number of employees in minimum space.

Each Bradley takes the place of 8 to 10 "single-person" wash basins, reducing piping connections by 80%, reducing janitor work and maintenance and eliminating entirely the multiplicity of faucets and their upkeep. The central sprayhead supplies clean *running water to each person.*

Hard usage is no problem when you have durable Bradley Washfountains....Washroom layout suggestions and a copy of our complete Catalog 4308 mailed on request....BRADLEY WASHFOUNTAIN CO., 2325 West Michigan St., Milwaukee 1, Wisconsin.

BRADLEY *Washfountains*

Write for latest Catalog 4308 and Washroom Survey Sheet.

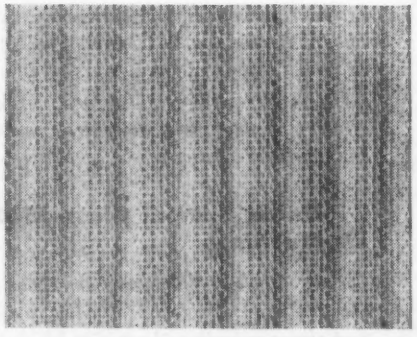
such as hemp and jute which may contain appreciable quantities of tannins, results have not been so successful. The tannins seem to inhibit the proper setting or penetration of the resin, with resulting poor shrinkage control and crush-proofing. In fabrics made of mixed fibers, the presence of hemp in comparatively small quantities would probably not be objectionable.

Reed Plan for Cotton Fabric

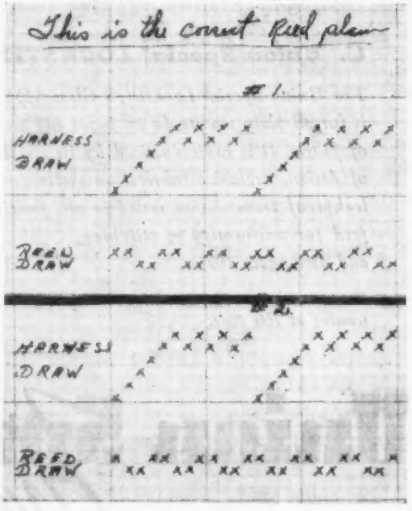
Technical Editor:

We would like to have your opinion on the question whether or not it is possible to determine how a fabric is reeded from a sample of the gray goods right off the loom. We realize that this is not possible on all constructions, but do believe that some constructions show the reeding very plainly.

We are enclosing a sample swatch of gray fabric and two reeding plans. We would appreciate your opinion as to which of these two plans was used in weaving this fabric. (9035)

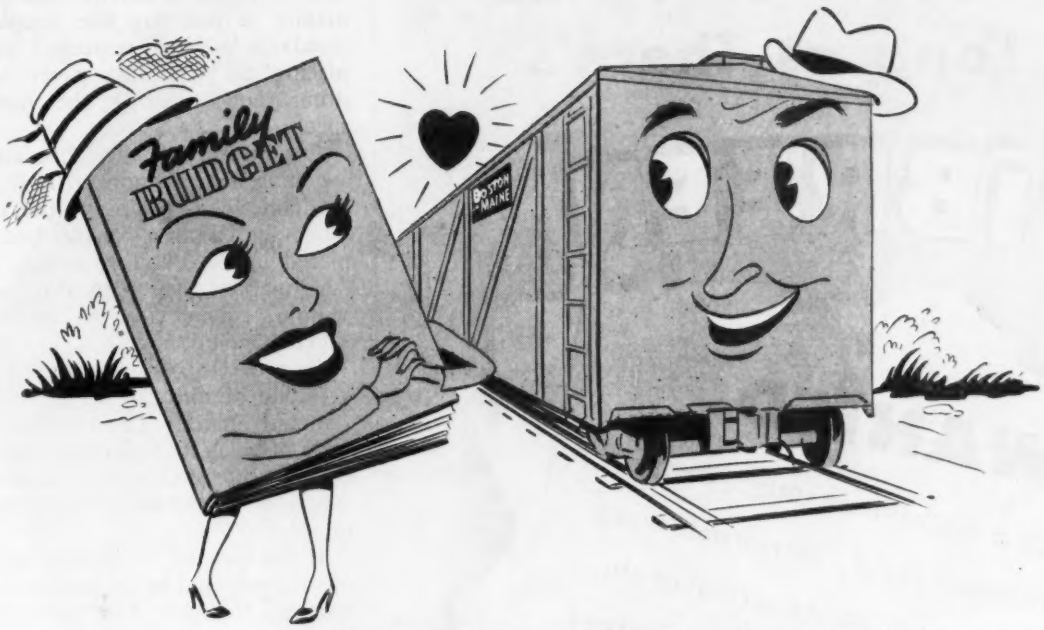


The reed plans illustrated below were submitted with this cotton fabric.



The accompanying reed plans, Nos. 1 and 2, have been checked and plan No. 1 marked as correct.

Your Budget's Best Friend is a BOX CAR!



You never thought your battered wartime budget had a friend, did you? But it has! Although almost everything else costs you much more than in 1939, railroad freight rates are still on the same level today as they were in that year. Railroad freight rates are not adding one cent more to your cost of living today than they did at the time of Pearl Harbor. So don't let anybody tell you that your cost of living has increased because the railroads are charging more for hauling the things you buy.

A 25-pound ham can still go places by rail for less than 25 cents

Maybe your Easter ham did cost more this year than in 1939, but it wasn't because of its traveling expenses! It *still* costs less than 1¢ a pound to ship a ham all the way from Chicago to Boston . . . only 2½% of its final cost to you at your local market. And the freight rate for hauling a 5-pound bag of flour from Minneapolis to Boston is less than 2½¢ . . . just as it was six years ago. And what about clothing? The charge for shipping women's shoes from New England to Chicago is less than 1½¢ a pair! These are but a few examples of what the B and M, and other American Railroads, are now charging for carrying the things you buy.

YOUR taxes could be worse!

Yes, that's right; were it not for the railroads (and that includes Northern New England's B and M), that withholding tax you've felt like grousing about might be even HIGHER. At the time of the last war, the Government took over the operation of the railroads. The resulting deficit — which the taxpayers had to pay — was $1,282,051 a day. During World War II it has been a different story. This country's railroads have been on their own and in 1944 contributed over $5,000,000 a day *to* the Government in taxes. That's another way the railroads are befriending your family budget. Last year the Boston and Maine's tax bill (Federal, state, and local) was $8,498,787.

Race of the century: rising operating cost vs. increasing efficiency

Since 1939 our annual payroll has shot from $21,394,122 to $41,227,138; our annual taxes from $3,519,723 to $8,498,787; our annual bill for materials and supplies, including fuel, from $7,542,385 to $15,440,389. BUT FREIGHT RATES ARE *STILL* LOW . . . the railroads still carry a ton of freight at an average cost of *less than* 1¢ a mile just as they did back in 1939. How are we able to do this? By continually improving our operating methods (making the same number of cars do more work, for example); by purchasing motive power that can haul longer trains at lower costs; and by receiving helpful cooperation from our employees, shippers, and the general public.

Boston and Maine will continue to serve you by providing fast, efficient, low cost transportation.

OUR FREIGHT CARS WILL *ALWAYS* BE YOUR BUDGET'S BEST FRIEND!

BOSTON *and* MAINE

You'll Never Have to Run an Ad Like This as Long as There's

FIBREEN

WANTED

We are in the market for a tough, weather-proof, moisture-proof, dirt-proof wrapping paper. It must assure arrival of shipments at destination in satisfactory condition despite exposure and rough handling. It should eliminate concealed damage and minimize claims. It must be time-tested and proved under the most severe shipping conditions. And, we should be able to buy it at a reasonable price. Address replies to "Any Progressive Manufacturer," U. S. A.

Here are a *few* of the Main Fibreen Uses

Wrapping for open car shipment . . . lining crates, cases, bags, and cars . . . reduce cases to crates . . . crates to packages . . . wrapping small, large, heavy or light rolls, bales, etc. — for LCL, express, and carload shipments. In addition, use it to protect machinery, parts, and materials stored outdoors.

THE SISALKRAFT CO.
205 W. WACKER DRIVE · CHICAGO 6, ILL.
NEW YORK · SAN FRANCISCO · LONDON · SYDNEY
In Canada: Write to Alexander Murray & Co., Limited at Montreal, Toronto, Halifax, Saint John, Winnipeg, Vancouver

Manufacturers of SISALKRAFT, FIBREEN, SISAL-K, SISALTAPE AND COPPER-ARMORED SISALKRAFT

Accurate Color Measurement

(Continued from page 131)

so simple that an inexperienced person can take measurements with very little instruction. Its routine operation is largely automatic and consists mainly of inserting the sample and standards in their respective holders, placing the recording paper on the drum, and selecting the recording speed.

For measuring reflectance samples, a homogeneous sample, at least 1½ in. in diameter, is placed in the sample holder; and a sample of standard white placed in the standard holder. This combination gives a measure of the sample's color relative to the international standard.

In order to compare two samples, a second sample can be put into the standard holder. The resulting curve will not be an internationally standardized measure of color, but a measure of the color difference between the two samples.

If the specular, or gloss, component of light reflected by the sample is to be retained, the white cups supplied with the instrument should be placed in the specular ports of the sphere. If the specular component is to be omitted, the black cups (also supplied) should fill the specular ports.

For transmission measurements, white standards are placed in both the reflection sample holder and the reflectance standard holder, while the sample is placed in the sample beam in the transmission compartment.

The method of measurement is shown in Fig. 6. The light from the projection lamp is dispersed by prism No. 1. The slit and mirror select a band of light 10 millimicrons wide. The mirror and slit are so driven by the wavelength motor through a cam system that the spectrum is continuously scanned from 400 millimicrons to 700 millimicrons. Another cam system so varies the mechanical width of the slit that the 10 millimicron band is kept constant through the spectrum. This band of light is further dispersed by prism No. 2 and trimmed by slit 3 to insure its spectral purity.

The monochromatic beam is then passed through the polarizing and flickering optical system into the integrating sphere, where it falls alternately 60 times a second on the sample and the standard. If the light reflected by the two is equal, the phototube detects a constant light level. If, however, the reflectance is not equal, the phototube will detect light variation at the rate of 60 cycles a second.

This 60-cycle voltage signal from the phototube is amplified and applied to a thyratron stage to drive a small, split-field, d.c. motor. The motor is

trees for tomorrow

The war has emphasized how dependent America is upon its vast forest resources. Battle lines begin in the tall timber, for our trees are fighting too, as the endless source of the sinews of war.

But in this war-torn world of today we are also planning for tomorrow. Trees will be the source of thousands of new science-created articles. Already paper, rayon, tire cord, cellophane, plastics, chemicals, textiles and insulating materials are produced from the forests — and these are but a preview of things to come. That's why America's forest industry seeks to place its timberlands on a basis of continuous yield.

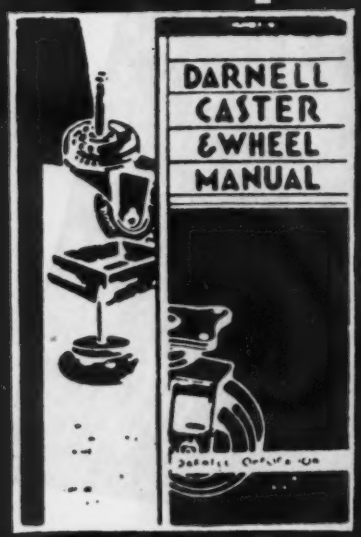
The trees which give us the pulpwood from which these countless products are made, yield the soundest wood in their early or middle life. Good forestry management calls for harvesting mature trees before decay sets in, and keeping a balance between wood crops and new growth.

The manufacture of dissolving pulp depends upon an adequate, uniform and continuous supply of wood. That is the basis upon which this Company operates — with an eye on today, and an eye on tomorrow — for even as we harvest timber for our pulp today, there is a reserve for the coming years of peace . . . a whole succession of new crops growing for the future.

RAYONIER
INCORPORATED

Sales and Executive Offices: 122 East 42nd Street, New York 17, N.Y.
Mills: Hoquiam, Port Angeles and Shelton, Wash., and Fernandina, Fla.

DARNELL CASTERS



Nearly 4,000 TYPES OF DARNELL CASTERS and WHEELS

Darnell Dependability assures savings, service, safety, speed. A caster or wheel for every use.

You are sure to find the exact caster or wheel for your individual requirements in the Darnell line.

DARNELL CORP. LTD. LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N Y
36 N. CLINTON, CHICAGO 6, ILL

FREE MANUAL

mechanically connected through the photometer cam to the Rochon prism No. 1. This balance motor rotates the prism, which changes the light intensity on the standard with respect to the sample until the light reflected by the two is equal, at which time the phototube, detecting no light variation, stops the motor.

The position of the Rochon prism is then a measure of the reflectance of the sample compared to that of the standard. The recording pen is driven by the same linkage that drives the prism. Therefore, the position of the pen is an accurate measure of the difference in reflectance between the standard and the sample.

The measurement is always made at the point of zero-voltage signal and is, therefore, independent of the characteristics of the phototube, lamp, or amplifier.

The fact that the Rochon prism is positioned through a cam makes it possible to plot density and log density, or any special function desired (in addition to reflectance or transmission), simply by cutting a cam of a different shape in order to control the relative motion of the prism and the pen.

New Finishes

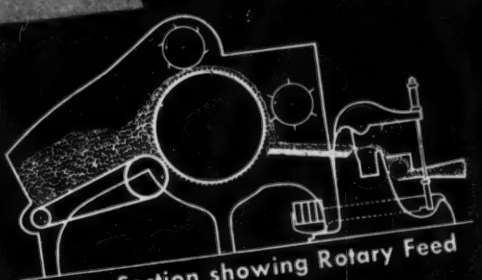
(Continued from page 139)

been previously dried, is carried out on a two-bowl pad. The rolls are made of rubber, or one of rubber and the other of stainless steel, monel, or iron. Since the solution of cellulose is quite slippery, it is necessary to drive both rolls. Pigments and a fungicide are dispersed in the cellulose solution which is constantly agitated by a beater located in the bowl of the pad. Indirect steam heat with a thermostatic control maintains the temperature of the pad solution at 80° F. The netting enters the pad bowl travelling through the padding solution under two immersed rolls and then into the nip of the pad rolls with the pressure adjusted to yield about 5% cellulose on the weight of the netting. On leaving the pad, the netting is plaited in folds into a scray or is rolled up on rolls and then delivered to the coagulating bath. The coagulating bath contains a 3 to 5% solution of sulphuric acid at a temperature of 75° to 80° F. The netting in open width is guided through this, over immersed rolls. The action of the sulphuric acid is two-fold. It neutralizes the alkali necessary to keep the cellulose in solution, and thus renders it insoluble. It also renders the fungicide insoluble; that is, the phenolic types, by changing the solu-

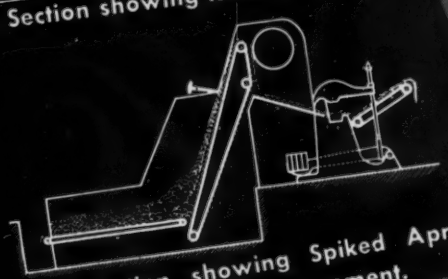
New High Production... Improved Quality with the

PROCTOR

CONTINUOUS EXTRACTING UNIT FOR RAW STOCK



Cross Section showing Rotary Feed



Cross Section showing Spiked Apron Feed, with pit arrangement.

Here is a modern unit, which replaces the laborious intermittent method of centrifugal extracting. This more recent and highly efficient method not only assures you higher production, but actually improves the quality of the stock being processed.

Here are the highlights of its operation. An automatic feed delivers a uniform amount of wet stock to the squeeze rolls. A vibrating plate, arranged between the self-feed and the squeeze rolls, feeds the layer of wet stock into the nip of the rolls in such a manner as to prevent droppage of wet stock or bunching of the material as it goes through the rolls.

There is better opening of matted stock... wet spots in dried stock are eliminated... production is constant and very high... time losses are virtually eliminated... power and labor requirements are kept to a minimum.

This equipment is actually in a class by itself. The initial cost is not low. However, when you consider that with it you can combine increased production with improved quality — it is obvious that the Proctor Continuous Extracting Unit will pay for itself many times over. Even with somewhat higher initial costs, viewed over the long run, Proctor equipment is actually the least expensive.

PROCTOR & SCHWARTZ, INC • PHILADELPHIA 20, PENNA.

RYERSON STEEL IN STOCK

Call Ryerson for any kind, shape or size of steel you need. Steel for manufacturing, maintenance or construction ...all products are available for immediate shipment from any one of the ten convenient Ryerson Steel-Service Plants. Ask for a stock list...your guide to steel.

Principal Products Include:

Bars • Shapes • Structurals
Plates • Sheets • Floor Plates
Alloy Steels • Tool Steels
Stainless Steel • Screw Stock
Wire • Mechanical Tubing
Reinforcing Steels • Shafting
Babbitt • Nuts • Bolts
Rivets • Welding Rod • Etc.

JOSEPH T. RYERSON & SON, INC.
STEEL-SERVICE PLANTS AT: CHICAGO, MILWAUKEE, ST. LOUIS, DETROIT, CLEVELAND, CINCINNATI, BUFFALO, BOSTON, PHILADELPHIA, JERSEY CITY

What's Ahead in Piece Goods Drying?

You will learn the answer by checking on the newest "NATIONAL" Automatic Piece Goods Dryer . . . designed and built to provide unequalled speed, efficiency and economy in the drying of rayon, cotton, woolens and mixed piece goods. Our representative will be glad to give you all the *profitable* details.

Orders for "NATIONAL" Dryers will be filled in the sequence received. By acting now, you will make certain of earliest possible delivery of these efficient, high-speed machines.

Automatic Loop Dryers
Package Yarn Dryers
Print Goods Dryers
Truck Type Skein Dryers

Straight Run Tenters
Return Type Tenters
Apron Stock Dryers
Continuous Yarn Dryers

THE NATIONAL DRYING MACHINERY CO.
WEST LEHIGH AVE. & HANCOCK ST., PHILADELPHIA 33, PA.
New England Agent—C. H. INGALLS, Providence, R. I.

ble sodium salt to an insoluble compound.

Following the coagulating operation, the netting is subjected to a series of rinses followed by a soda-ash neutralization and a final thorough rinse, from which it is delivered to the tenter dryer.

TENTER DRYING. Tenter drying is necessary in order to obtain maximum shrinkage control by imparting a "set" to the netting which controls the degree of shrinkage. The set is due to the cohesive force of the cellulose compound, which also acts as a binding agent holding the pigment and the fungicide firmly to the fiber. Thorough penetration of the fungicide is essential. The application of the fungicide, when carried out simultaneously with the cellulose compound, in most cases is not sufficient; and, therefore, in order to eliminate edgegrowths of fungi, it becomes necessary to pretreat the fabric with a fungicide application before padding on the cellulose compound.

Precision Winding

(*Continued from page* 139)

greatest yardage per package which will successfully unwind in the ensuing operation.

HEAD VS. AFTER WIND. The advantage of either one of these winds over the other is debatable. Many mills have conducted experiments to determine which is best, but the opinions of individual mills vary as to the result. However, it is definitely safe to say that a vast majority of mills use the head wind.

It will be noted that the crossings of the yarn on the package form well-defined angles. When a package produced with head wind is used as a supply, in a subsequent operation the yarn will be drawn, on the downward stroke, from the top of the angles without interfering with any previous convolutions. On the upward stroke, it will be drawn from the bottom of the angles. In the case of a cone, the package shape is such that when delivering on the upward stroke from the bottom of the angles, the yarn has the opportunity to clear the surface of the cone without interfering with any previous convolution.

On a package produced with after wind, the coils are released from the top side of the angles when the yarn travels up the package, and from the bottom of the angles when travelling down the package. Whatever drag or restriction of yarn delivery there may be occurs when the yarn is travelling

THE "W&G" Lockstitch, with its succession of improvements, has established an enviable record during the almost fifty years that it has been serving manufacturers throughout the world. Its mechanical superiority for all plain sewing operations is recognized in every branch of the industry.

Versatile,—it is used continuously for quality production of virtually every type of wearing apparel from sheer silk and rayon to heavy work clothes, etc.

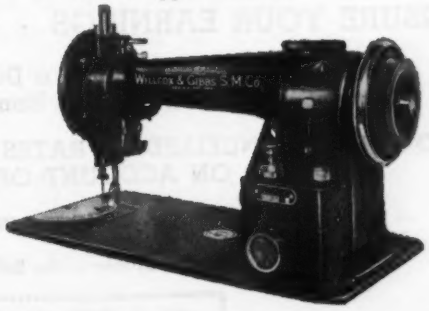
The Meter-Unit System of Automatic Lubrication built into the "W&G" Lockstitch has proven as efficient as any yet devised. It provides just the right amount of lubricant for each bearing according to its size, speed and load.

It will be difficult for awhile to get enough "W&G" Lockstitch Machines to satisfy all demands—but when production is again normal—machines will be available in a never-ending flow.
It will be to your advantage to wait for "W&G" Lockstitch Machines.

Send for Illustrated Descriptive Bulletin No. 886

HERE ARE A FEW OUTSTANDING FEATURES OF THE "W&G" LOCKSTITCH!

- Belt Drive of Fabric Construction
- Clean, does not soil delicate fabrics
- Floating Bobbin Case, lubrication unnecessary
- Hand Wheel of Web design ensures safety
- Perfect balance, no need to fasten to table
- Quiet, even when at top speed
- Rotary Thread Take-Up
- Replaceable Bearings
- Self-Releasing Knee Lift (Easier Operating Action)
- Stitch Type 301
- Wheel Type Tension



WILLCOX & GIBBS SEWING MACHINE CO.
214 West 39th Street, New York 18, N. Y.

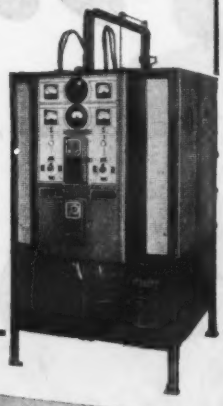
ACCELERATED TESTING
for WEATHERING and FADING with
ATLAS-OMETERS

Twin-Arc
WEATHER - OMETER
Test Results Twice As Fast

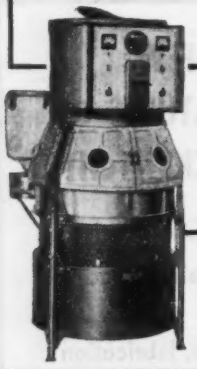
The new Atlas Twin-Arc Weather-Ometer has been developed to save time where speed in testing is essential.
Where Federal Specifications call for a definite number of testing hours in the Atlas single arc Weather-Ometer, this time can be cut in half in the Atlas Twin-Arc.

Exclusive Atlas Twin-Arc Weather-Ometer features:

1. Temperature control.
2. Unlimited range and control of Light and Water Spray Periods.
3. Adjustable and automatic timing.
4. Insulated test chamber.
5. Operates continuously 24 hours without manual attention.
6. Carbon cost 28c per day.
7. Full automatic—Safe to operate unattended overnight.
8. Control panel contains Volt and Ammeters—Time Meter—Light and Water Cycle switch — Automatic time cut off switch — Voltage adjusting switch — Direct reading thermal regulator —Reactance Coil (cut power cost in half).



The Single Arc Model is a popular machine where high speed is not required.



FADE-OMETER

The recognized standard machine of the textile trade for determining the light-fastness of materials. Specimens are rotated around the Atlas Enclosed Violet Carbon Arc — the closest approach to natural sunlight. Temperature of the filtered air is automatically controlled. Proper humidity is furnished by evaporation from a constant-level water reservoir. Available with a wide variety of specimen holders and exposure masks.

• Originators and sole manufacturers of accelerated testing devices for a quarter of a century. Fade-Ometer, Weather-Ometer, Launder-Ometer are used all over the world as accepted standard testing machines.

ATLAS ELECTRIC DEVICES CO., 361 West Superior St., Chicago 10, Ill.

EASTERN
COMMERCIAL TRAVELERS

Massachusetts Company — Organized 1894

PERSONAL ACCIDENT AND HEALTH INSURANCE AT ACTUAL COST

INSURE YOUR EARNINGS - - - PROTECT ALL!!!

Provides Protection 24 Hours a Day — When Traveling — When at Work — Around the Home or While on Vacation

NO POLICY CANCELLED OR RATES INCREASED OR BENEFITS REDUCED ON ACCOUNT OF ADVANCED AGE!

— MORE THAN 50 YEARS OF UNFAILING SERVICE TO MEMBERS —

No Branch Offices — No Solicitor Will Call

SEND THE COUPON TODAY

John S. Whittemore, Sec.-Treas. T.W.-45
Eastern Commercial Travelers
80 Federal St., Boston

Without obligation, please send complete information and application for membership to

Name .....

Address .....

City .....State .....

down the package, because it has to lift itself past the angles above it.

After wind is sometimes preferred for very coarse material such as rope, which is wound on heavy-duty machines. This wind tends to close up the lay of yarn as the package increases in diameter, thereby it makes a more symmetrical package.

It is easy to identify head and after wind when the package is on the winding spindle. And there is no question about the type of wind on a cone. However, on a tube which is off the spindle, it is necessary to remember that the tube was wound by being rotated in a clockwise direction; from this, it is possible to identify the wind by means of the yarn angles.

Key Employees Developed

(*Continued from page 135*)

ter cooperation from help and from other supervisors, (13) accident prevention, (14) how to improve housekeeping, (15) how to create a better feeling between labor and management, (16) training new help, and (17) how to get the right person on the right job.

The last few minutes of the two hours is taken up with a discussion as to the problems which are most pressing and should be discussed at the next meeting. The list is then narrowed down to eight or nine problems which will be taken up at the next session.

It can readily be seen that, since the group has built up its own topics for discussion and selected the more pressing problems, the leader will have no trouble in getting plenty of interested comment. The meetings are always started on time and adjourned on time, but very often the men hang around and continue the discussion for 30 or 40 min. longer.

FILMS SHOWN. A portable projector is available, as are several films on foremanship. Whenever one of the pictures fits into the discussion, it is shown by the conference leader. Films can be found that are frequently applicable as can be seen from the list of titles following: *A New Supervisor Takes a Look at His Job, Supervising Workers on the Job, Maintaining Quality Standards, Instructing the Worker on the Job, Maintaining Workers' Interest, Placing the Right Man on the Job, Improving the Job, Working With Other Supervisors, Planning and Laying Out Work, Supervising Women Workers,* and *The Supervisor as a Leader.* The movies are short and tend to further enliven the discussions. However, the meetings are not planned around the

For Five Generations a Part of the American Scene

Excellence is a tradition at Cheney Brothers

THE ARMY-NAVY "E" FLAG, now with three stars, flies over the Cheney plant—a symbol of outstanding war service.

In fact, this flag might well be a symbol of the whole history of Cheney Brothers. For through a century of continuous production—including service in 4 previous wars—the keynote of Cheney policy has been summed up in one word, *quality.*

And this very insistence on quality is a major factor in Cheney Brothers' enviable war record. For World War II is the most technical war in history—requiring military fabrics actually engineered for specific military uses. Cheney mills are turning out these supplies in large quantities, and they include such widely diversified products as human escape chutes, tow targets, acetate wire-bearing cloth, alpaca fur plush, and sewing threads for various military needs.

Of course this highly technical war production will be reflected in finer peacetime products. Many such developments are under way right now—Cheney fabrics for the future even finer than those of the past. And when they are available, American consumers will find them the best fabrics for every purpose.

Meanwhile all Americans look toward an early Victory—and speed that Victory by continuing to buy *more* War Bonds.

CHENEY FABRICS

CHENEY BROTHERS

Quality manufacturers since 1838

350 FIFTH AVENUE, NEW YORK 1, N. Y.

Velvets—Pile Fabrics—Cravats—Upholstery and Decorative Fabrics
Yarns for Industry—Men's Wear Fabrics—Machine Thread—Industrial Fabrics

Sales Offices

BOSTON • PHILADELPHIA • CHICAGO • LOS ANGELES

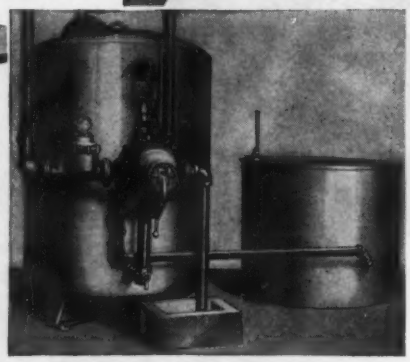
MILLS AT MANCHESTER, CONN.

ALSO AT MANCHESTER, CONNECTICUT, A SUBSIDIARY...PIONEER PARACHUTE COMPANY

Refinite

Reduces Operating Costs 3 More Ways

Below: Refinite Multi-Port Solo Valve controlled Heavy Industrial Water Softener



1. ELIMINATE PROCESSING TROUBLES
Uneven dyeing, stains, dull colors, and the many other problems arising from the use of raw, untreated water are successfully and economically removed with Refinite Water Refining.

2. STOP EXCESSIVE FUEL WASTE
Refinite properly refined water completely eliminates scale and the resultant heat loss and delays for repair. As little as 1/16 of an inch of scale in boilers and tubes will cause as much as 16% heat loss.

3. MORE WORK OUT OF LESS LABOR
Exclusive, time-saving features reduce operator's time to a minimum. Work-stops and delays caused by hard water are eliminated. Production increases . . . costs decrease.

Over a Quarter of a Century of Water Refining.

Refinite
Products Include:

Softeners
Filters
Aerators
pH Correction
De Mineralizers
De-Alkalizers
Chlorinators
Chemical Feeders

The Refinite Corporation

107 Refinite Bldg. Omaha, Nebraska

FOR EXCELLENCE IN PRODUCTION ★★

ANNOUNCING

AMYSOL-DS—A Powerful Desizing Agent

With 0.1% to 0.5%, depending on the weight and construction of the material, you can materially speed up your desizing process. Simple, safe and easy to use with all natural, mixed or synthetic fibres.

AMYSOL-WS—For Hydrolizing Starch Solutions

A small percentage of Amysol-WS in your starch solutions will rapidly penetrate the size into the goods and control dusting, reduce end breakage, facilitate and speed up your manufacturing process. Combines readily with virtually all sizing additives. Easy and simple to use and truly a compound of tomorrow available today.

We invite you to make a trial of the new and perfected AMYSOLS.

PIONEER SALT COMPANY

940 N. DELAWARE AVE. PHILA. 33, PA.

films, but the films are shown if they have a direct bearing on the problems under discussion.

In addition to the movie projector, a sound film-strip machine is used. Its utilization is similar to that of the movie projector.

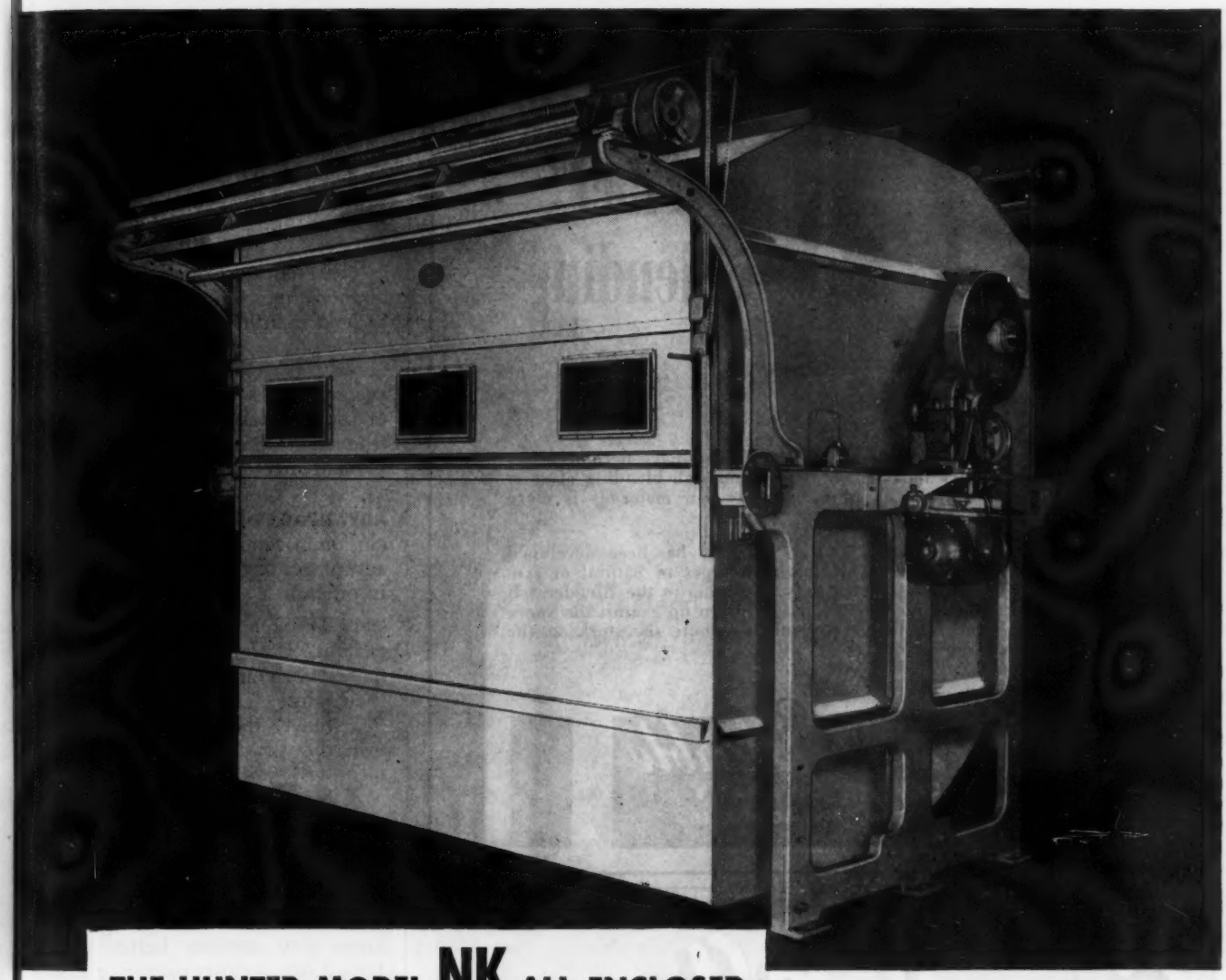
At the end of each meeting, the conference leader copies the material that has been put on the blackboard at the suggestion of the conferees, and, by the next meeting, he has had it mimeographed and hands each member a copy. After the conference is over, a mimeographed booklet is compiled and enough copies are run off to provide one for each member of the group and a supply for the mill's management. The purpose behind supplying management with a copy of the proceedings is that very often suggestions are made which are of interest to the "front office." If more than one group from a given plant is handled, a composite report is made, thus each group has the advantage of what has been done by all.

GOOD RESULT REPORTED. Before the employment of a full-time conference leader, the Parker District was doing the same job using a group of people who had had a special course in conference leadership. Although conferences were held in some of the plants having trained leaders, it was thought best to use someone from another plant to conduct the meetings. This was done so that there would be no restraint on the discussion. In other words, the supervisors should feel perfectly free to "cuss-out the boss" without the boss being any the wiser.

Confining the conferences to a total of 20 hours serves a dual purpose. In the first place, the meetings end while the interest is still high; and, in the second place, it makes the service available to more groups. It is the purpose of the program to offer a second unit to those groups desiring it. That there will be a demand is evidenced by the fact that some groups are already applying for a return engagement.

The employment of a full-time leader has made it possible for the second shift to be handled. Courses are conducted during the off time of the supervisors. Conferences for the second shift are usually conducted in the forenoon. The first and third shifts are handled together in the afternoon or evening.

At a wind-up meeting of a recent conference, the writer was present and asked the members of the group for an expression of their opinion as to the value of the conferences. Here are some of the things said: "The meetings have helped me find the solution for some of my problems." "The meet-



THE HUNTER MODEL NK ALL ENCLOSED STAINLESS STEEL PIECE DYE KETTLE FOR MODERN DYEING AND BLEACHING

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS.

Illustrated on this page is the newest Hunter addition to modern dyeing and bleaching requirements. Its many features affords the user these distinct advantages:

a. Vibrationless construction: all driving and driven members supported in newly designed separate frames.

b. Vari-speed drive for main reel for increased flexibility.

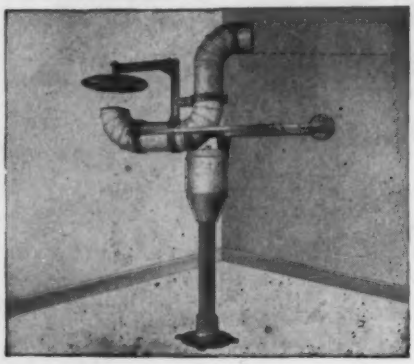
c. A size and type for any piece dyeing or bleaching requirements.

d. A tight top enclosure which is windowed and lighted, saves up to 35% of steam for the dyeing cycle. Entire Kettle may be insulated if required.

e. Proved performance on fabrics ranging from mohair plushes, woolens, worsteds, unions and blankets to spun rayons, etc.

If you contemplate replacing or expanding your present dye house units, it will pay you to ask Hunter for details. Simply write for our new bulletin today.

JAMES HUNTER MACHINE CO.
NORTH ADAMS, MASSACHUSETTS, U. S. A.
FOUNDED 1847



Synthetic Fiber Blending

TRUSLOW* BLENDER (patented)

Synthetic fiber miracles, undreamed of yesterday, have become a fact in the textile industry today. Completely thorough blending of spun rayon, wool and cotton with fibres of other raw materials is more essential than ever before.

The Improved New Model Truslow Blender has been developed to provide thorough blending of almost all types of natural or synthetic fibers. The stock is blown through piping to the Blender. It then passes through a rotating arm and is blown up against the vanes of the canopy — making it revolve and distribute the stock in the form of a heavy snowstorm.

*Reg. U. S. Pat. Off.

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS.

Sterling Ring Travelers

BOASTFUL?

Ask our many, old and satisfied customers, then let us prove our statement i.e. "the correct STERLING traveler for your work can't be beaten."

Southern Representatives
D. J. QUILLEN, Box 443, Spartanburg, S. C.
D. C. ANDERSON, Box 629, Cedartown, Georgia
SOUTHWEST SUPPLY CO., Box 1487, Dallas, Texas

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

ing on waste has enabled me to cut my waste by 50%." "Being a new man on the job, I feel like the conference has been a lifesaver." "I can now break-in my new help more quickly since the meeting on breaking in new help." "The meetings did me a lot of good, because I found out that the other fellows have problems too."

The group just quoted, as did some of the other groups, organized a club to hold monthly meetings at which it intends to discuss its problems. This is very desirable since it not only keeps alive the interest in this method of solving problems, but also forms a ready-made conference group for subsequent meetings.

ADVANTAGES OF METHOD. In conclusion, a summation of the principal advantages of the conference might be in order:

1. Through the give-and-take of discussion, supervisors learn to think more clearly and constructively about their jobs.
2. Since the problems are their own, they get day-to-day help from the meetings.
3. Since each member has a copy of suggested solutions for the problems discussed, he has the thinking of every other member on these problems.
4. Members of the group learn to know one another better and are bound into a closer operating team by the realization that they have so many problems in common.
5. Not only do the members of the group learn to think more clearly about their problems, but also their ability to put across ideas to others is improved.

No-Seam Nylon

(*Continued from page 133*)

tions to the consumer, the hosiery will perhaps be marketed as "51 gage."

QUALITY SOUGHT. Occasionally there is talk of rebuilding older coarse-gage machines to the finer gages suitable for no-seam nylons, just as there is talk of rebuilding coarse-gage full-fashioned equipment to finer gage. In neither case, however, will it be possible to take advantage of the mechanical refinements of the postwar machines. In the case of circular equipment, such rebuilt machines cannot, for example, produce the gusset in either the heel or toe. The gusset wales in the toe are intended to add a particularly flexible piece of fabric which will prevent discomfort caused by any constriction of the wearer's

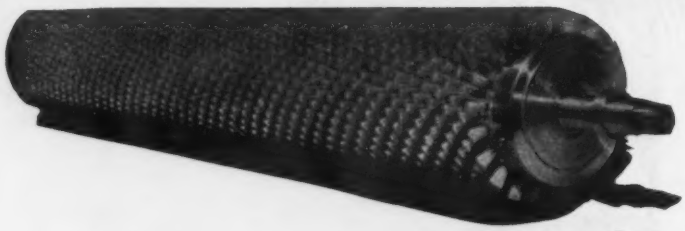
TEXTILE BANKING COMPANY

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

For the Clothroom—
JENKINS METAL CORE CYLINDER BRUSHES



The Cores of cold drawn steel or aluminum, can never sag or get out of alignment.

Set on the metal core with flat copper wire; the bristle is replaceable when worn.

Because of these matchless features Jenkins Metal Core Clothroom Brushes are efficient in operation, are easy to keep free from dirt and dust, and last indefinitely without deteriorization

M. W. JENKINS' SONS, INC.
CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

The Only Brushes to Match the Quality of your Best Machines.

R. D. COLE QUALITY

TANKS
TOWERS
STANDPIPES
STACKS
KIERS
KETTLES
VATS
AIR RECEIVERS
WELDED STEEL PIPE
DIGESTERS
BOILERS
BINS
FABRICATED FRAMEWORK

MARITIME "M" MERIT AWARD

Tank Builders for over 80 Years

R. D. COLE MFG. CO.
Established 1854
NEWNAN, GEORGIA

toes by the nylon fabric a few hours after the stocking is donned. The gusset in the heel affords a knitted-in angle to the foot in its relation to the leg to improve fit at the instep and provides an increase of flexible heel fabric to give comfort and longer wear.

The high caliber of many of the mills which are planning to include no-seams in their lines indicates that a sincere effort is going to be made to produce no-seams of top quality to be sold in a relatively high price bracket. The chief danger to this objective is the possibility that some circular mills operating under low overhead, with relatively unskilled workers earning low wages and showing high productivity per individual and per machine, will attempt to market stockings of inferior grade. It may therefore be important to those seeking success for no-seams of high quality that they get their hosiery on the market quickly and promote its merits actively.

NEW STYLE. Most of the full-fashioned mills planning to produce no-seams look upon these stockings more as a new style addition than as a direct competitor of full-fashioned hosiery, particularly in the finer full-fashioned gages. The new line, they reason, will serve to meet the wishes of those women who constantly complain about the nuisance of keeping seams straight and those who like the bare-leg idea; while the older line will serve the many women of all ages who like the slenderizing effect of the seam, as well as those who will continue to associate only the term "full-fashioned" with quality.

Tire-Cord Vibrator

(*Continued from page* 109)

sion vibrator was developed on cotton cords. It clearly differentiated between the different staple lengths in use by a factor greater than that given by the tensile test.

The early cotton cord (1¼-in. staple) had a tensile of 20 lb. The load used was 5 lb. according to the fundamental precepts of fatigue testing. The first rayon cord used also had a tensile of 20 lb. It was natural to test this cord on the vibrator at 5-lb. load.

However, in order to obtain the same reasonable average life as on the cotton cord, the test temperature had to be raised from 300° F. to 340° F. Obviously rayon was better than cotton.

In the development of test conditions, it was found that this rayon cord, which broke at 20 lb. conditioned, had an oven-dry tensile of 25

The Economical Insulation

PC FOAMGLAS

You will find that PC Foamglas can be cut to fit around projections and openings right on the job, with ordinary tools. The big, strong, rigid slabs, conveniently packaged, can be handled and laid quickly and easily.

IN the long run, you will find this cellular glass material the most economical insulation you can use. Why? Because the insulating properties of PC Foamglas are *permanent*.

While the insulating efficiency of many insulation materials deteriorates with age, PC Foamglas goes on year after year without loss of its original insulation value. Being glass, it is impervious to moisture, acid atmospheres, fumes, and vapors. It is verminproof, fireproof.

On roofs and equipment, in floors and walls, PC Foamglas has maintained predetermined temperature and humidity levels. It prevents condensation. Can you think of any other insulation that does all these things — permanently?

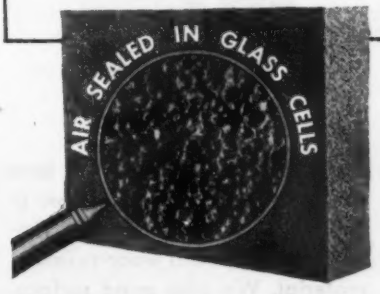
In all sorts of plants, all over the country, PC Foamglas is in increasing demand among men who are facing insulating problems. Freedom from repairs and replacement alone is prime proof of its ability to keep insulation costs down.

When you are considering insulation, be sure to check other materials against PC Foamglas. For complete information, just fill in and mail the convenient coupon. We shall be glad to forward free copies of the booklets you select. Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh 22, Pa.

CHECK THESE PROPERTIES OF PC FOAMGLAS:

1. **Permanent insulation**
2. **Vermin- and vaporproof**
3. **Fireproof**
4. **Waterproof**
5. **Light weight**
6. **Easy installation**
7. **Rigid structure**
8. **Economical**

FIRST COST IS LAST COST



· Also manufacturers of PC Glass Blocks ·

This concrete floor, insulated with PC Foamglas, prevents heat travel from the room below. A concrete wearing floor will cover the PC Foamglas.

This re-roofing job includes permanent insulation. Roofers have found that they can safely recommend PC Foamglas to the most exacting plant managers for the toughest insulating jobs. PC Foamglas retains its original insulating value—indefinitely.

PC FOAMGLAS *Waterproof Fireproof* **INSULATION**

T. M. REG. U. S. PAT. OFF.

Pittsburgh Corning Corporation
Room 637, 632 Duquesne Way
Pittsburgh 22, Pa.

Dear Sirs:

Roofs_____ Walls_____ Floors_____

Please send along my *free* copies of the booklets I have checked. It is understood that I incur no obligation.

*Name*_____

*Address*_____

*City*_____ *State*_____

Paying Its Cost in a Year

"H-W" Conditioner

Tests in cotton mills have proven that *Savings* of from 70% to as high as 90% in power consumption may be achieved by using "H-W" Conditioners (in comparison with other systems).

For Conditioning and Twist Setting of all textile fibers.

THE INDUSTRIAL DRYER CORPORATION
STAMFORD, CONN.

Worn Parts Reconditioned
actually outwear new ones

For Example: Rollers. We turn roller down and shrink on a Thomas & Skinner Long Life Tire made from special wear-resisting material. We also grind surface to correct diameter.

Thomas & Skinner Reconditioning Service restores cams, gears and other parts for full-fashioned knitting machines to their exact original size and shape. And one special processing gives T & S Reconditioned Parts a more enduring surface than the same parts had when new. Satisfactioned guaranteed.

T & S Products

We manufacture an extensive line of quality products for full-fashioned hosiery mills including Jacks, Narrowing Plungers, Narrowing Chain, Friction Springs, Snapper Springs, Magnetized Sinker Hooks, Cams, Running-in Machines, Locking Dials.

Thomas & Skinner Steel Products Co.
1119 EAST 23rd STREET • INDIANAPOLIS 5, INDIANA

lb. The cotton cord, however, had only 17 lb. tensile when tested oven dry. Inasmuch as all vibrator tests are made on dry cord, cotton seemed unduly penalized by these test conditions.

On the other hand, if one considers the cross-sectional area as the basis of comparison (as is done in strength or tenacity determinations), one finds rayon penalized. The cotton cord referred to above has a cotton yarn number of 1.21, while the rayon is 1.35.

Consequently, the rayon cord is being tested at a higher load factor ($1.35 \times 5.0 = 6.65$) than the cotton ($1.21 \times 5.0 = 6.05$).

An illustration of the difficulty in comparing two dissimilar materials is given in Table II. The two cords—the one rayon, the other cotton—have identical dry tensiles. When tested at loads approximately proportional to the cross sections, but at the two standard temperatures, the two cords give approximately equal lives, with cotton the better.

When tested at the cotton load, but at the two standard temperatures, cotton is unquestionably better. Finally, if the tests are run at an intermediate temperature, cotton is the better at either load. (Since different laboratory-built machines were used, the absolute values in the different lines cannot be compared.)

It can be seen that dissimilar materials cannot be compared directly on a fatigue tester and prediction of service performance made without a background of service testing. Dissimilar materials can be compared, however, as to the effect of temperature (Figs. 4 and 5) and uniformity (Table I and Fig. 3). On either of these bases of comparison, rayon is the better tire-cord material. The sensitivity to test load (Fig. 6) is also helpful in discriminating between two materials.

NATURE OF TEST. The mechanism-of-failure theory in the vibrator test is based on viscous or plastic flow. This theory, although admittedly incomplete, has not been seriously questioned. The curves of Fig. 5, however, demonstrate that viscous flow (which demands a linear log life vs. 1/T curve) does not explain the observed facts except over a limited temperature range.

The newer results reported here indicate that the log life vs. 1/T curves are parabolic in shape and that a "zero-life" temperature exists. Consequently, several mechanisms of failure may be acting simultaneously. It may be possible that a certain mechanism predominates in a given temperature range; but as the temperature

SYLVANIA NEWS

TEXTILE EDITION

MAY *Published by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1945

HUGE WEAVE ROOM SYLVANIA LIGHTED

Fluorescents Used In Naumkeag Plant

The largest weave room in the country—about 10 acres under one roof—is now entirely lighted by Sylvania Electric fluorescent lamps and fixtures, a result of

Sylvania Fluorescent Lighting In Ten-Acre Weave Room

recent modernization of the lighting system in the Naumkeag Steam Cotton Mills, Salem, Mass., makers of Pequot sheets and pillowcases.

IMPROVES CONDITIONS

The lighting of this huge room is designed to provide the best possible conditions. This type of lighting, particularly in textile mills, means greater comfort for the individual and a consequent increase in production, with improved quality.

OTHER INSTALLATIONS

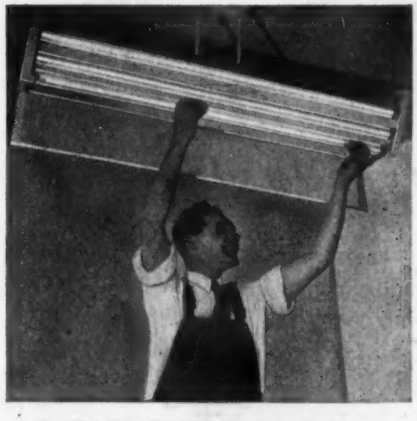
Another application of fluorescent lighting at the Naumkeag Mills is in the Cafeteria, where a diffused, pleasant illumination gives the room an appealing, modern atmosphere. Several other departments of this company are also lighted by cool, bright fluorescent light with further installations contemplated.

POSITION INDICATOR ASSURES FASTER, SAFER LAMP MOUNTING

Sylvania Plastic Base Leads Fluorescent Field with New Design, Is Non-Corroding

Fluorescent lamps go into correct position faster—and with no guesswork—as a result of Sylvania Electric's development of a new position indicator . . . latest addition to Sylvania's long list of fluorescent firsts. Molded directly into the plastic end-cap—itself a new feature of Sylvania fluorescent lamps—the position indicator greatly reduces the time needed to assure that lamps are correctly positioned in the lampholder. Instead of squinting through the lampholder (the old method) the maintenance man merely verifies lamp position by feeling the location of the indicator, which can be easily reached from his place on the ladder.

THE OLD WAY: *A final squint was needed to be sure the lamp was correctly positioned.*



THE NEW WAY: *Position indicator instantly verifies correct mounting.*

Here is the new plastic base, moisture- and vapor-resistant, with position indicators.

The new plastic end-caps provide greatly increased resistance to attack by excessive moisture and acid fumes. This fact will contribute substantially to long end-cap life in industrial locations.

The new bases will be used first on T-12 lamps, and later on T-8 and T-17 sizes.

SYLVANIA ELECTRIC

MAKERS OF FLUORESCENT LAMPS, FIXTURES, ACCESSORIES; INCANDESCENT LAMPS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

BOOTH
Quality Card Clothing
Aids Your Cost Record

By developing the full efficiency of your cards, BOOTH QUALITY CARD CLOTHING makes a definite SAVING in your production costs. We suggest you try it.

A complete line including Cylinder Clothing, Doffers, Workers, Strippers, Tumblers, Fancies, Rings, Lickerins, Feed Rolls, etc.

Benjamin Booth Company
Allegheny Ave. & Janney St., Philadelphia 34, Pa.

is changed, the different mechanisms merge imperceptibly. . .

The curves of Fig. 6 indicate conclusively that the failure is not a "tensile" failure. As the load is increased above the highest value given in Fig. 6, it may be that the separation between these two cords will diminish to the tensile-machine separation. At the low loads employed, however, there can be little question that some other mechanism is operating.

Not much can be added at the present time on the theory of the mechanism of failure. Evidence can be cited, however, in answer to certain questions that have been raised.

In the course of the development of the vibrator, there have been times when it seemed as though vibrator results could be predicted from tensile tests. A statistician would be tempted to predict a high correlation between the two tests in some instances.

Such a correlation may, or may not, be desirable—service tests are required to settle the question. Within limits, there should be good correlation between two tests which measure different quality characteristics. High-tenacity rayon, for instance, has reached its present state only by continual improvement in strength and fatigue resistance. However, the two characteristics have not always been improved simultaneously, as can be seen in Table III. The tests summarized there were made on cords of identical constructions and twists on the yarns submitted for tests by the rayon suppliers. Since all fatigue tests are comparative, a standard production cord is used as reference (100%). Any vibrator result above 90% is considered as good, because of fluctuations in the reference standard. It is easy to see that there is poor correlation between tensile and fatigue.

It is true that the vibrator is sensitive to degradation, be it thermal, chemical or mechanical. An automobile tire runs hot (temperatures above 300° F. are not uncommon) and is subjected to all kinds of mechanical abuse. If a deleterious chemical is incorporated into the compounds or left on the cord, it is there to accelerate failure. Therefore, a heat-degradation test is an essential test.

The effect of loss due to service testing is shown in Fig. 7. Here are shown two cotton cords, *A* and *B*, and two tire constructions with the same cord, *B* and *C*. The tires were tested on an indoor wheel test. There was no loss in tensile, but a progressive loss in fatigue resistance can be seen.

The effect of chemical degradation can be well illustrated by the care with which the rayon manufacturers remove

AS SEEN IN LIFE

Two of the dramatic ARALAC advertisements in LIFE MAGAZINE . . . directed to the millions who read LIFE regularly. ARALAC fabrics in rich variety and texture are on the market today . . . you'll see them in exciting new fashions by leading designers.

It's *ARALAC
ARALAC . . . soft and resilient . . . gives smoothness, sparkle and
texture to beautiful fabrics! This bolero suit of fine Hi-Spun rayon and
ARALAC flannel is a perfect example for Spring, 1945. About $30.

ARALAC, INC.

71 Vanderbilt Avenue • New York 17, N. Y.

ARALAC, produced by a division of NATIONAL DAIRY PRODUCTS CORPORATION, represents but one of the many contributions this nationwide organization is making toward the more efficient utilization of America's agricultural resources.

★ T. M. Reg. U. S. Pat. Off.

A "CHAMP" IN EVERY WAY

Sleek, swift, and a thoroughbred—that's a champion Greyhound.

Dependable, top quality and a real "champ", too—that's DIASTAFOR de-sizing agent. For 37 years, it's been the recognized leader, outstanding for superb performance in finishing cottons, rayons and mixed goods.

DIASTAFOR produces an ideal finish . . . gives flawless results . . . solves your de-sizing problems once and for all. See for yourself the big difference DIASTAFOR makes. One trial will convince you it's a "champ" in every way.

For further information, see our technical man or write to—

FLEISCHMANN'S DIASTAFOR

Diastafor Division

Standard Brands
INCORPORATED

595 Madison Ave., New York 22, N.Y.

DIASTAFOR
37 Years of Satisfactory Results

JUST ASK THE

"U.S." RING TRAVELER SPECIALIST

He knows TRAVELERS, worked in a mill himself as overseer or super . . . he'll give you SOUND advice on any possible Traveler improvements in YOUR mill. As leading makers of precision Travelers for the textile field—we want to help you, not just "SELL" you. This is a real service . . . drop "U.S." a line today.

PERFECT BALANCE
Weighs same on both sides. Straight part of shank is in center of gravity. Distributes lubricant and wears evenly. Will not pivot twisting self and rayon.

THE NE-BOW
Prevents yarn ends flying out, provides ample head-room for threading—prevents binding on ring. Note "bend inward" at top of horn.

THE BEVEL EDGE
Great pioneering "U.S." contribution to smooth spinning twisting. Eliminating angular edges gives uniformity of tension more even yarn, less "fly."

● **SOLD UNDER THESE TRADE NAMES** ●

Bowen Round Point Travelers
Bowen Square Point Travelers
Bowen Improved Vertical Bronze
Bowen Patented Bevel Edge
Bowen Flat Oval and Round Wire Traveler
Bowen Patented Ne-Bow Vertical
Bowen Patented Vertical Offset

HEAT CONTROL
for better metal—dominates "U.S." production! Carburizing and tempering ovens are electrically controlled through pyrometers for better performance.

U.S. RING TRAVELER CO
AMOS M. BOWEN
President and Treasurer
PROVIDENCE RHODE ISLAND

all trace of processing acids. A slight acidic condition of the yarn will show up immediately in the vibrator test but not on the tensile test until after months of shelf aging. (This is probably the cause of the extremely low life on the second line of Table III.)

Thermal aging tests are generally conducted by measuring the loss in tensile. In the Goodrich laboraory, dried cords are aged 48 hr. at 320° F., with the oven-dry tensile measured before and after aging. This aging condition gives a significant, and reproducible, loss.

A comparison of cotton and rayon on the tensile test and the vibrator is given in Table IV. (The aging time had to be reduced to 16 hr. in order to obtain measurable lives after aging.) The cords are the same as used for Table IV.

With identical tensiles and barely perceptible tensile loss (10%), the aged rayon has lost 17% of its fatigue resistance, the cotton 51%. As a heat aging test per se, the vibrator is unquestionably more sensitive than the tensile machine.

The two rayon cords used in obtaining the data for Fig. 5 have been tested on the tensile aging test and comparison of the tensile aging properties with vibrator tests on the unaged cords are given in Table V.

Cord *A* is somewhat superior to cord *B* on the aging test, with a loss of only 21% instead of 26%. However, on the vibrator test at high temperatures, cord *A* is 50% better than cord *B*, a result that could not be predicted from the tensile aging.

Unquestionably, the vibrator gives more than a thermal degradation test. It can be used to detect degradation and is a powerful tool for that purpose. However, little is known about what property the vibrator measures. It can be said with assurance that it is not a tensile test and that it measures more than merely thermal degradation.

CONCLUSIONS. It cannot be emphasized too strongly that not yet can performance characteristics of so complicated a mechanism as an automobile tire be predicted *in toto* by laboratory tests on the bare cord. Empirical correlations in limited respects have been discovered, others will be discovered. It is to be hoped that eventually it will not be necessary to conduct expensive endurance tests on full-scale tires in order to evaluate new textile materials.

A cord fatigue tester has been developed by technicians of the B. F. Goodrich Co. and used with confidence for several years. A commercially available embodiment of this equipment is now being manufactured by a re-

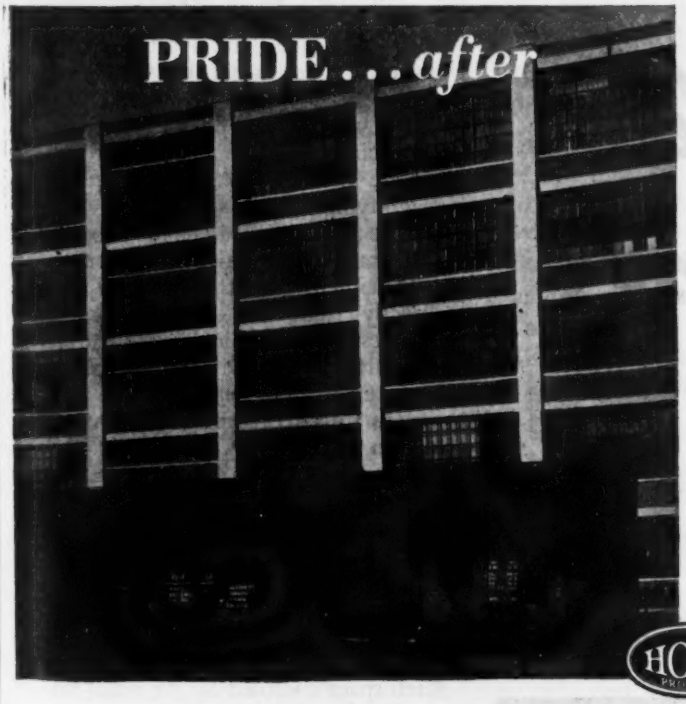
IF YOUR BUILDINGS NEED THIS RAINCOAT DO THE JOB NOW!

Put a "raincoat" on your shabby buildings now . . . make them look like new again and protect them for the future.

The Horn Research laboratories, after ten years of scientific and field tests, developed Waterfoil, manufactured of irreversible inorganic gels.

WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES



These gels bond chemically and mechanically to masonry to form a dense hard coating which lets the masonry breathe as it should, but helps impede water penetration to prevent reinforcing bar rust and spalling.

Waterfoil is free from oil, cement, lime, casein or glue. It is unlike any other masonry treatment and has a true scientific basis for its formulation. Send today for the Waterfoil literature. It's important.

HORN PRODUCT

A. C. HORN COMPANY

Established 1897

MANUFACTURERS OF MATERIALS FOR BUILDING MAINTENANCE AND CONSTRUCTION

LONG ISLAND CITY 1, N. Y. • HOUSTON, TEXAS • SAN FRANCISCO, CALIF.

Filament and Spun Rayon Yarns

ROBISON Rayon Yarns

Dyed and Twisted to your Specifications

ROBISON
PROCESSING COMPANY, INC.
BOSTON NEW YORK

DRAPER Dependable SOAPS

For more than 85 years, DRAPER has been providing better soaps for better fabrics.

The Textile Industries long have known that "Depend on DRAPER" has real significance, for the users of DRAPER Dependable SOAPS are producing better cloth.

Write for a demonstration of DRAPER SOAP *quality.*

DRAPER SOAP Co.
DIVISION OF CONTI PRODUCTS CORP.
171 Front St. Tel. No. Perry 1806 Pawtucket, R. I.

liable firm for those who wish to have this tool available in their own laboratories.

The known facts about one method of fatigue testing of tire cord have been presented in the foregoing interim progress report. Much work remains to be done, much more than has been. Perhaps some suggestions as to what needs be done can be obtained from these pages.

References:

[1] Busse, Lessig, Loughborough & Larrick, J. App. Phys. 13, 715 (1942).

[2] Licensed for manufacture and sale by the Ferry Machine Co., Kent, Ohio.

[3] W. A. Shewhart, Economic Control of Quality of Manufactured Product, D. Van Nostrand Co., New York, 1931, p. 300.

Cotton Combing

(*Continued from page* 113)

degree of neppiness, or of the machine at fault.

A valuable program of nep control can be carried out with a reasonable expenditure of time, and with a few simple instruments as follows:

One fiber-board mat (5 x 5 in.) covered with a black, napped material.

One sheet of glass (5 x 5 in.) with ruled lines ½ in. apart. This is a convenient size for taking specimens directly from the card web with the doffer stopped. (25 sq. in.)

One fiber-board mat (10 x 10 in.) covered with black, napped material.

One sheet of glass (10 x 10 in.) with ruled lines ½ in. apart. This furnishes a larger area (100 sq. in.) for spreading specimens by hand.

One spreader for putting thin layers of specimens on the mat.

One pick glass or other suitable magnifying glass.

One scale graduated to one-tenth of a grain for weighing specimens.

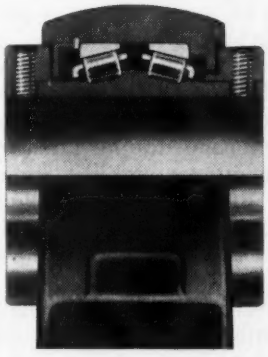
Specimens of cotton may be taken directly from the bale or brokers' samples. Various pinches from different parts of the bale or sample should be taken to make sure that the specimen is truly representative. This collection of pinches should be thoroughly torn apart into a fluffy mass free from all matted or tangled bunches. A sample weighing 10 gr. taken from this large specimen is spread thinly on the large (10 x 10 in.) mat, the ruled glass placed over it, and the number of neps or specks are counted by using the pick glass. Each space enclosed by the ruled lines on the glass should be counted in consecutive order. This divides the large area into smaller ones and reduces possibility of errors, such as omitting neps or counting the same neps twice.

SPECK COUNT. The same procedure can be followed on picker laps, draw-

30,000 HOUR SERVICE AT *Lower Cost*

with new

DODGE-TIMKEN TYPE "E" BEARINGS



Genuine Timken tapered roller bearings handle any combination of radial and thrust loads in normal installations.

Extra long inner race distributes the load.

Time-tested method locks bearing on shaft.

Simplified labyrinth seals protect against dust, dirt and loss of lubricant.

Factory assembled, adjusted, lubricated, ready to install.

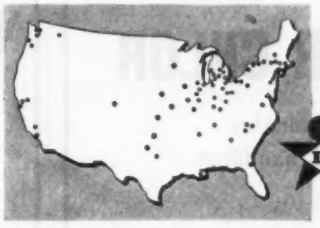
TRANSMISSIONEERING achieves a new combination of high performance with low cost! Type "E" is the lowest priced Timken-Bearing-equipped mount on the market. There is no sacrifice of quality; the low price is the result of Dodge Transmissioneering skill, and efficient, volume production.

Precision-built, rugged, dependable, the new Type "E" bearing assures 30,000 hours or more, of service, under conditions for which it is adapted. It offers superior load carrying and high speed capacity.

Type "E" bearings, completely assembled, lubricated and adjusted at factory, ready for immediate use, are available in Dodge distributors' stocks. Call the Dodge Transmissioneer in your territory for information about these, *and other new developments in power transmission equipment,* to help you increase production efficiency and lower your power costs.

DODGE MANUFACTURING CORPORATION
MISHAWAKA • INDIANA

Copyright 1945 Dodge Mfg. Corporation

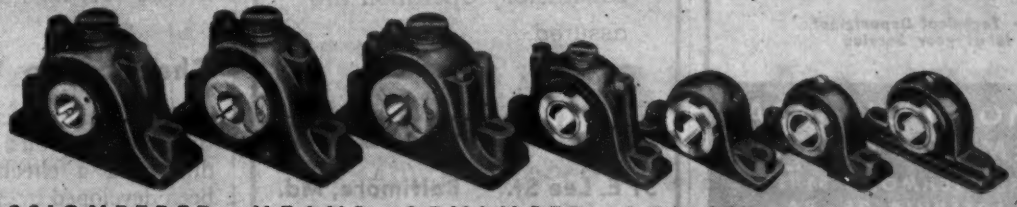


There are 210 Dodge factory graduate Transmissioneers, located in principal cities, to show you new and better ways of transmitting power.

Sign of the Dodge Transmissioneer

DODGE
MISHAWAKA

DODGE ROLLING BEARINGS . . . THE 30,000 HOUR LINE



TRANSMISSIONEERED MEANS ADVANCED DESIGN IN POWER DRIVES

Fits Army
Fabrics for Global War . .

Fabrics that must meet the rigors of today's world-wide war, need every good characteristic that you can impart.

DRUMMOND SOAP

Gives fabrics a good start on their career for Army, Navy, or civilian use. For DRUMMOND Soap contains no filler of any kind . . . It's a high-body product of low alkali content . . . It has a high binding quality that results in minimum flocking . . . Saves on steam and water because it rinses easily and completely . . . Better fulling and scouring . . . Leaves fabric perfectly clean with softest feel, better hand, brighter colors and whiter whites . . . Want to try it? Just write us today for a free working sample and test DRUMMOND Soap on your own goods.

Don't Sell America Short—BUY MORE BONDS

Standard Soap Co. of Camden

205 South 2nd St.
CAMDEN, N. J.

G. TANGUAY
281 Harris Ave., Woonsocket, R. I.

QUALITY RICHMOND PRODUCTS

Less
Handling with
AFTER CHLOR

eliminates
3 to 5 handlings

Bleach with
HYPOCHLORITE
Rinse and Use

AFTER-CHLOR
That's All!

Write for FREE Sample—
enough for a Trial Run

Our Technical Department Is at your Service

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
153-155 RICHMOND STREET
PHILADELPHIA 25, PA.

LAZENBY
WINDERS
● COP
● BUTT
● BOBBIN

KEEP your machines at top production with Maintenance and Repair Parts from our stock.

And because Genuine Lazenby Parts are manufactured according to specifications and design drawings, correct fit and satisfactory operation are assured.

F. A. LAZENBY & CO.
31 E. Lee St. Baltimore, Md.

ing sliver, comber sliver, and roving. To take a nep count on card sliver, stop the doffer, place mat under the doffer web, put ruled glass on mat with section of web enclosed, lift out mat, count neps, and remove specimen from mat for weighing. Nep counts should be divided by the weight of specimen in grains to reduce all counts to the comparable unit of neps per grain.

Nep count on yarn can be made by reeling off a number of yards, counting neps or specks with a pick glass, weighing the specimen, and reducing the speck count to specks per grain and specks per yard.

Cloth speck count is made on a basis of specks per square inch of fabric by using a pick glass with the square-inch opening; or, if a larger sample count is desired, the 5 x 5-in. ruled glass may be placed directly on the specimen and a speck count made of the entire area of 25 sq. in. A glass-top table with a light under the top greatly facilitates yarn and fabric speck counting.

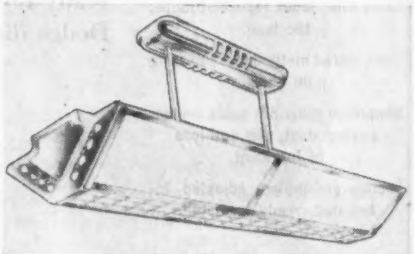
Textile Equipment News

(Continued from page 145)

clips. A pair of service chains is provided for attachment to the chassis so that the enclosure may be lowered and be supported for servicing operations.

This enclosure may be swung on these service chains to provide easy access to the interior and the lamps and chassis. Removing and installing the enclosure takes but a few seconds—a time-saver in cleaning and relamping.

Suspension-type fixtures include hanger assembly consisting of all necessary parts for complete installation. Surface-type fixtures are installed through a self-aligning ceiling plate provided in the chassis.

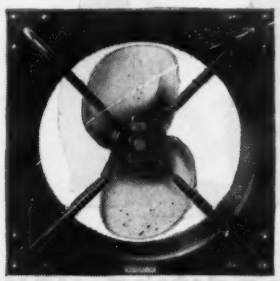


Lamp fixture with snap-on enclosure for speedy servicing (Day-Brite)

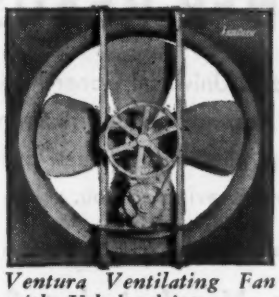
Check-Strap Washer

Intended to overcome slipping of the check strap on a loom when leather dries out, a check-strap washer has been developed by Amedee Goulet and manufactured by H. F. Livermore Co.,

AMERICAN BLOWER

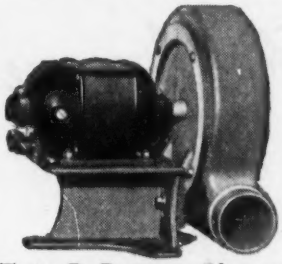


Ventura Ventilating Fan with direct connected 2-speed fully enclosed motor.

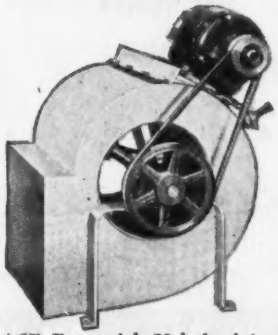


Ventura Ventilating Fan with V-belt drive.

ABC Utility Set for ventilating with a duct system.

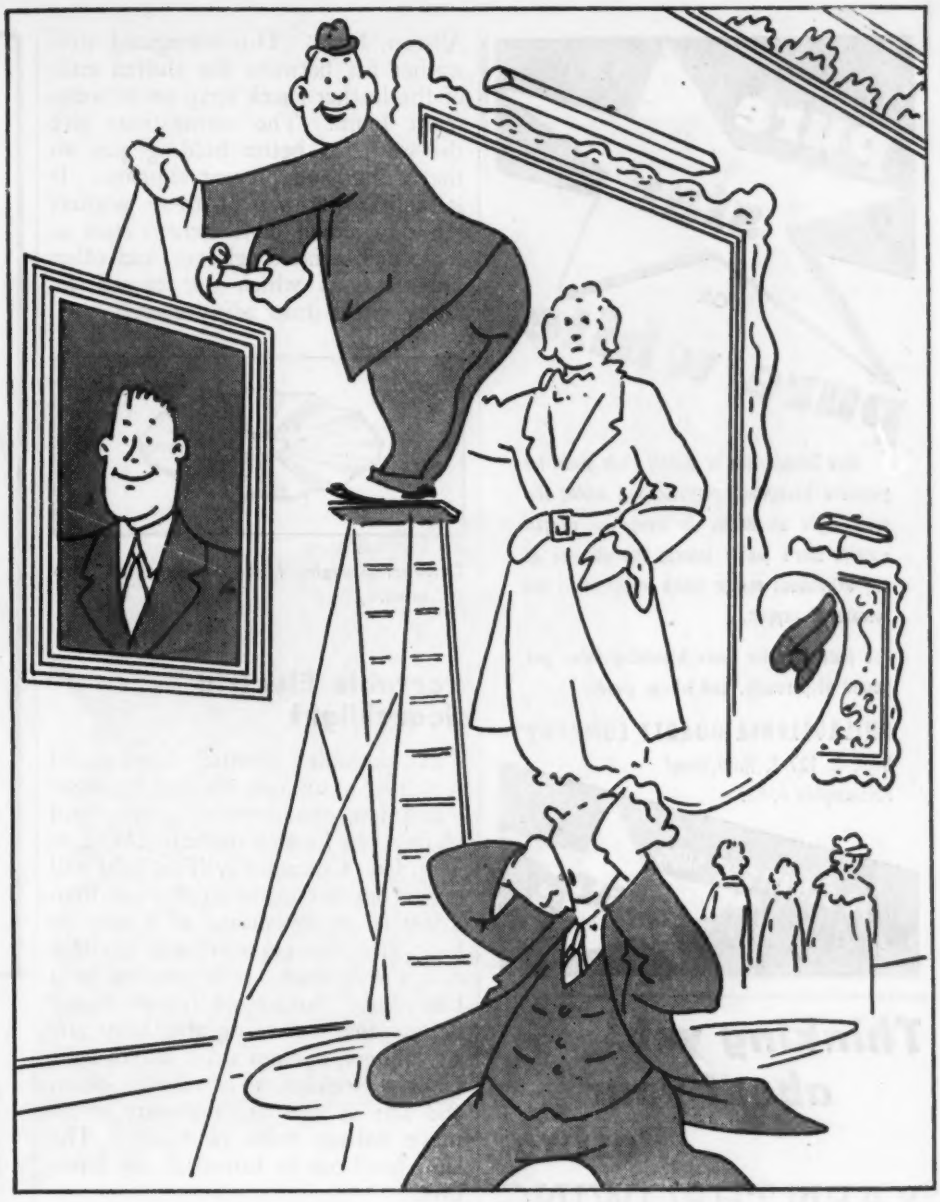


Type P Pressure Blowers.



ACF Fan with V-belt drive.

Other fans to meet every air handling need.



"There," he said, "is where it belongs!"

"I FEEL so good about our new Ventilating System," writes a nationally known manufacturer, "I wouldn't hesitate to recommend American Blower equipment to anyone.

"THE CONTRACTOR who installed it did a swell job, too. When a man does a thorough job these days, you ought to put his picture in the museum along with the old masters.

"THERE is where it belongs. I feel like placing our contractor's picture there myself."

TIP-OFF—You can get a swell job on any problem of ventilating, air handling and exhausting from your local Ventilating Contractor or Dealer.

AND YOU will be sure of getting complete satisfaction if you ask for American Blower Equipment.

AMERICAN BLOWER

AMERICAN BLOWER CORPORATION, DETROIT, MICH.
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONT.

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Pure Star FOR Pure White

Star Silicate is a brilliantly clear grade for peroxide bleaching, manufactured under the most rigid standards. It frees the oxygen evenly. Star's purity insures the absence of any extraneous matter which might affect the release of oxygen.

Use pure Star for more bleaching value per pound of peroxide, and whiter goods.

PHILADELPHIA QUARTZ COMPANY
Dept. A, 127 S. Third Street
Philadelphia 6, Pa.

PQ SILICATES OF SODA — Star BRAND

Thinking yet about your Postwar

YARN THROWING MACHINES ? ? ? ?

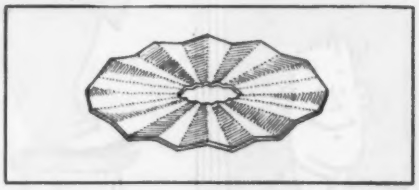
You will profit by planning today to use, when the war is over, the improved yarn throwing machines of U. S. Textile Machine Co. Currently, Uncle Sam is getting our production efforts. But research and development is continuing on a large scale. And when peace comes, these will be available to you—offering *newest*, most modern features.

Plan to Use These Products

- U. S. ACME TWISTERS for spool or headless package.
- U. S. JUMBO FACE DRIVE TWISTERS for large Headless Package work.
- U. S. ACME DOUBLE-TWISTERS—large Package.
- U. S. REDRAWS and Spoolers.

U. S. TEXTILE MACHINE CO.
SCRANTON, PENNSYLVANIA, U. S. A.

Allston, Mass. This corrugated steel washer fits between the slotted ends of the leather check strap on an automatic loom. The corrugations give the washer a better holding grip on the leather and prevent slippage. It is stated that use of these washers tends to reduce cloth defects such as loose picks, frayed selveges, and other imperfections which are caused by faulty check-strap adjustment.

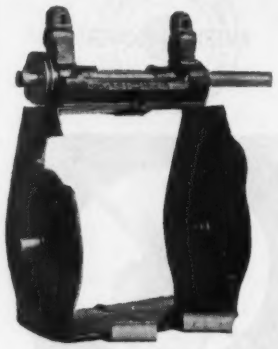


Corrugated washer holds leather check strap (Livermore)

Portable Electric Searchlight

A portable electric hand-model searchlight, suitable for use by night watchmen, maintenance crews, and plant police force, is made by U-C Lite Mfg. Co., Chicago 11. This light will project an intense beam of more than 2,500 ft. or, by means of a snap-on lens, give the same volume of light over a wide area. It is powered by a heavy-duty, shockproof 6-volt storage battery that is rechargeable from any a.c. charger, or from a d.c. line or light plant. Recharging is simple, clean, and safe as it is not necessary to remove battery from container. The lamp-head can be turned in any direction.

Portable electric searchlight being charged (U-C Lite)



Recondition your CONER-HEADS

Style #50 Universal Coner Heads can be reconditioned with bronze bushings, new shaft and new pulley at a great saving to you.

Write for prices and full details.

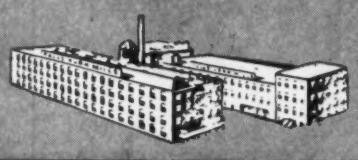
Wayne Manufacturing Co.
Honesdays, Pa.
Manufacturers & Textile Mill Supplies

Fallspun

QUALITY YARNS

FINE WOOLEN & SPECIALTIES

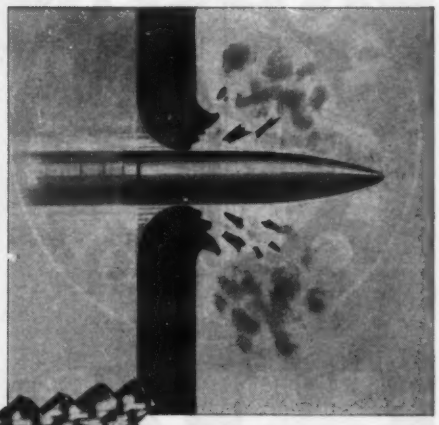
ESTABLISHED 1904

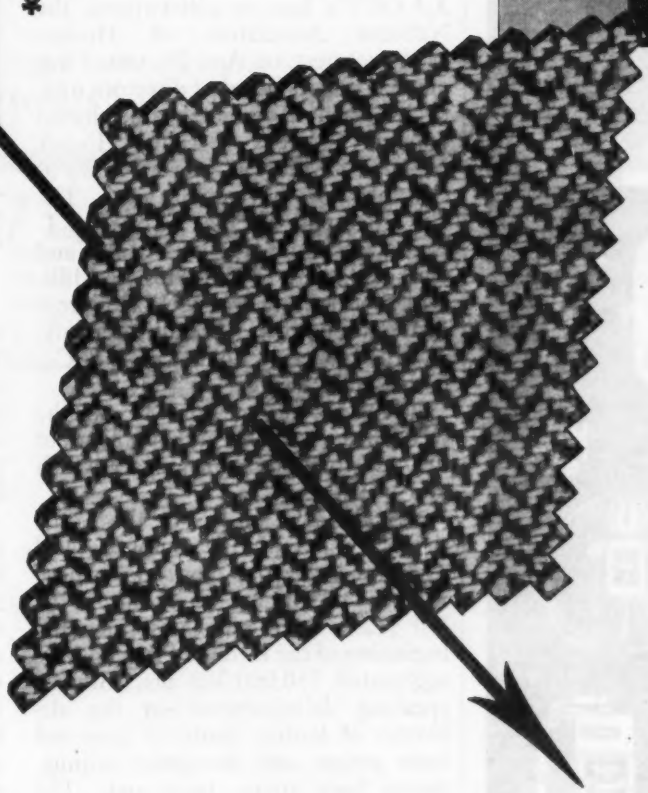


Falls Yarn Mills
WOONSOCKET RHODE ISLAND

• PROCTER & GAMBLE

Olate*





PENETRATES

WOOL FIBERS FAST

...RINSES OUT FAST!

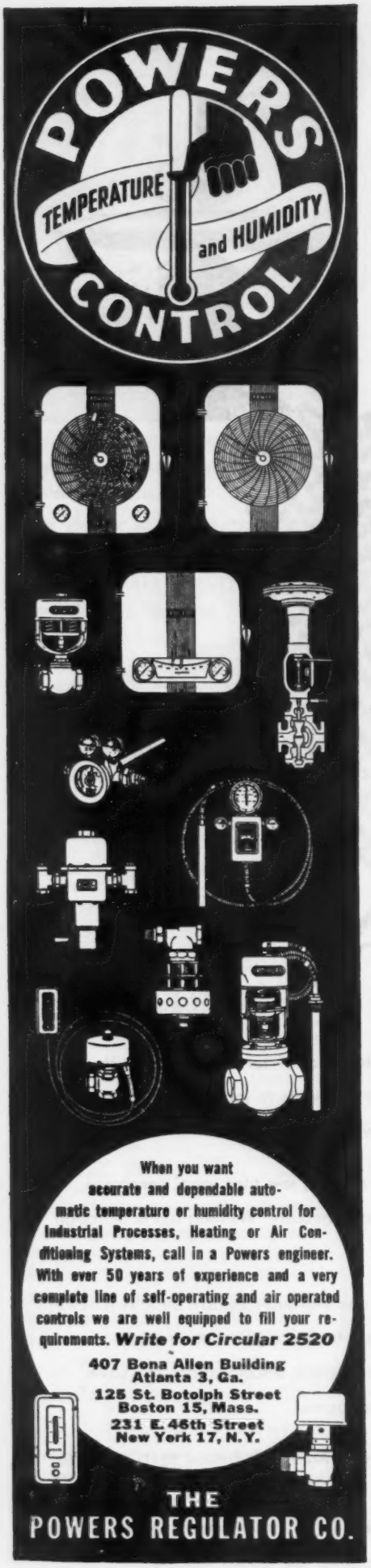
Business-like—that's the proper term to describe the way an Olate solution begins and ends its job in scouring and fulling woolens and worsteds.

Fluid solutions of this neutral, low titer soap penetrate the fabric almost instantaneously. Wetting out is thorough and even.

Olate's rinsing speed and thoroughness are equally noteworthy. You get exceptional protection against rancidity, odor development, and fabric discoloration. You save water, time, steam, manpower.

Olate is helping many of America's busiest textile mills to speed up production . . . to guard against costly tie-ups and rejects. There's a place in *your* mill where Olate's efficiency and safety can help deliver the goods fast.

*safe and efficient for every wet finishing operation


POWERS
TEMPERATURE and HUMIDITY
CONTROL
When you want accurate and dependable automatic temperature or humidity control for Industrial Processes, Heating or Air Conditioning Systems, call in a Powers engineer. With over 50 years of experience and a very complete line of self-operating and air operated controls we are well equipped to fill your requirements. Write for Circular 2520
407 Bona Allen Building
Atlanta 3, Ga.
125 St. Botolph Street
Boston 15, Mass.
231 E. 46th Street
New York 17, N.Y.
THE
POWERS REGULATOR CO.

HOSIERY PROBLEMS Are Being Solved

HIGHLIGHTS: Earl Constantine reports progress on many lines to annual meeting of hosiery association conducted by proxy. Regional meetings, in conformance with ODT, are being held.

BY A PROXY ELECTION to meet ODT's ban on conventions, the National Association of Hosiery Manufacturers, on Apr. 25, seated five members on its board of directors, and, by later action of that board, elected James N. Weeks of Hanes Hosiery Mills Co., Winston-Salem, N. C., as chairman for the coming year. The vice chairmen elected are Robt. T. Amos, of Amos Hosiery Mills, and Herbert Jaques, of Hub Hosiery Mills. Earl Constantine was reelected president and Reuben C. Ball, secretary. T. H. Mueller of Julius Kayser & Co. is the new treasurer.

Mr. Constantine summed up the recent achievements and problems of the industry in his annual report, which said in part:

"Purchases of hosiery by the Army, the Navy and Marine Corps, as well as by other government agencies, have reached an all-time high during the last year. Such purchases since the beginning of the Defense Program have aggregated 750,000,000 prs. Broadly speaking delinquencies on the deliveries of hosiery contracts have not been serious and emergency requirements have always been met. The program of the Army to develop a satisfactory method for shrink-retarding, if not shrink-proofing, hosiery made in part or in whole of woolen yarn has proved a success.

"On Aug. 28, 1944, OPA announced new interim prices on cotton yarns which averaged 7½% higher in carded, and 10 to 15% higher in combed. Recent statements by the Administrator of OPA indicate that a careful survey made in the intervening time leads to the conclusion that the interim prices were too high and that a downward readjustment must and will be made.

"Our industry, like others in the textile field, is experiencing at this time its greatest difficulty in securing yarns. The situation is tighter in the case of cotton yarns than in that of rayon, although scarcities in both exist. We continue to keep in touch with the proper British sources, from which for a time we were able to secure high-count combed cotton yarns.

James N. Weeks, president of Hanes Hosiery Mills Co., who is newly elected chairman of NAHM.

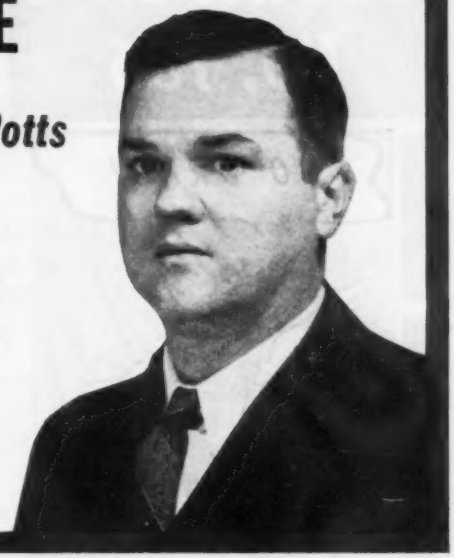
"During the last year limitation order L-274 has been amended by WPB to permit the use of 75 den. rayon yarn on 42-gage full-fashoined equipment and on 300-needle circular knitting machines. We understand that the use of 75-den. has been extended by special permission to 39-gage.

"To reduce the poundage of cotton yarn needed for reinforcement of the toes of women's rayon hosiery, our association has recently recommended that manufacturers be permitted to reduce the toe reinforcement area of women's full-fashioned rayon stockings by one inch and that priority assistance be extended by WPB in all cases in which the manufacturer otherwise would be unable to comply with the requirement. We expect favorable action on this recommendation.

"At present our manufacturers are entitled monthly to an amount of rayon yarn equivalent to only 69.7% of their basic poundage. We believe that any further reduction would be against the public interest as well as damaging to our industry.

"As a substitute for the annual meeting we have adopted the policy of area or district conferences. Two such conferences have already been held, one at High Point, N. C., and one at Reading, Pa. Next week we undertake conferences in southern cities under the joint auspices of our association and the Southern Hosiery Manufacturers' Association. These will be at Knoxville and Chattanooga, Tenn; Atlanta, Ga.; Charlotte and Hickory, N. C. Later we plan conferences at Philadelphia, Pa.; Boston, Mass., and one or more points in the Middle West."

SIGNIFICANT SAVINGS FROM THE LIXATE PROCESS, *says Dye Foreman Potts*



"After using the Lixate Process for more than nine years we realize the many advantages in fully saturated brine, produced automatically from Rock Salt, when piped and metered to the expansion tanks and water softener. A substantial annual savings has been made in salt due to the greater efficiency of brine as the exhausting agent in the dye bath."

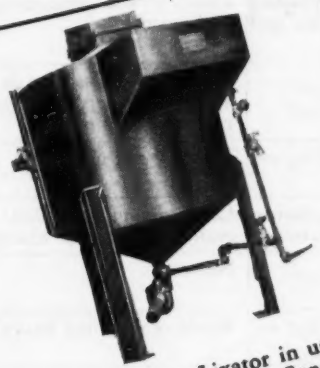
ZERRY L. POTTS, *Dye House Foreman*
The Stead & Miller Co., Concord, N. C.

And that's only the beginning, Mr. Potts... here are other advantages of LIXATE BRINE:

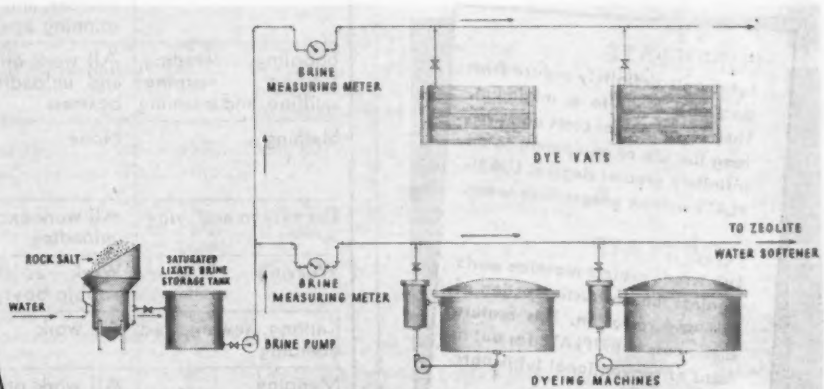
1 No streaking, spotting or white edges. Why? Because you get quick, even dispersion throughout the dye bath ... which guarantees level dyeing with this crystal-clear brine.

2 100% saturation eliminates wasteful and clumsy measuring of salt to obtain desired brine strength in dye bath. Lixate brine's full saturation assures accuracy in diluting to necessary strength.

3 Regeneration of Zeolite water softener is made quick, easy, economical and *reliable.* Pure brine is always on tap ... produced automatically at low cost from Sterling Rock Salt.



Here you see the Lixator in use at The Stead and Miller Co., Concord, N. C. A variety of models and sizes are available to meet any space demands or varying brine requirements. Lixator can also be custom-built and installed to meet special conditions. Installation never requires a costly investment.



FLOW SHEET SHOWING LIXATOR IN TEXTILE MILL

Flow sheet shows a representative textile mill installation. The Lixate process pipes brine to all points required throughout your plant ... an instant distribution system that saves the time and labor of transporting dry salt and mixing brine.

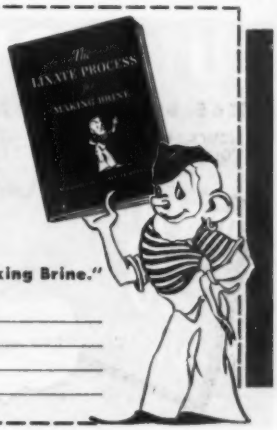
The LIXATE Process *for making brine*

★ ★ ★

INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

Here's your short-cut to Savings **THIS FREE BOOKLET!**

Complete with useful brine formulas, tables and diagrams, this booklet explains the Lixate Process in fullest detail. Illustrations of numerous Lixator installations show how varied specifications and requirements are met ... and how costs are cut, efficiency bettered, production improved wherever used. Write for your copy today!



International Salt Company, Inc.
Dept. TW-5, Scranton, Pa.

☐ **Send free copy of "The Lixate Process for Making Brine."**
☐ **Have your field engineer call.**

*Name*_____
*Firm*_____
*Street*_____
*City*_____ *State*_____

LUBRIPLATE No. 105

This very smooth, light density (semi-fluid) grease type lubricant resists water and other unfavorable operating conditions to a marked degree. LUBRIPLATE No. 105 not only provides superior lubrication but offers utmost protection against rust and corrosion. Because of its water-proof feature and freedom from "drag", it is ideal for

General Industry	Firearms
Radio Equipment	Outboard Motors
Instruments	Home Appliances
Business Machines	Fishing Reels

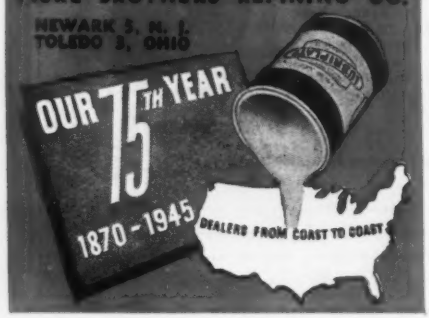
LUBRIPLATE
Lubricants definitely reduce friction and wear to a minimum. They lower power costs and prolong the life of equipment to an infinitely greater degree. LUBRIPLATE arrests progressive wear.

LUBRIPLATE
Lubricants protect machine parts against the destructive action of rust and corrosion. This feature alone puts LUBRIPLATE far out in front of conventional lubricants.

LUBRIPLATE
Lubricants are extremely economical for reason that they possess very long life and "stay-put" properties. A little LUBRIPLATE goes a long way.

Write for a booklet, "The LUBRIPLATE Film", written especially for your industry.

LUBRIPLATE
FISKE BROTHERS REFINING CO.
NEWARK 5, N. J.
TOLEDO 5, OHIO



TEXTILE MILL JOBS
for Workers of 16 to 17 Years

The Children's Bureau of the U. S. Department of Labor has issued the following tabulation of jobs suitable for young workers, which is No. 10 of a series of advisory standards.

Department or operation	Comparatively Safe	Too Hazardous
Receiving and stock rooms	Light work such as opening boxes and storing light materials; clerical occupations and the like	Handling bales, oil drums, buggies, barrels, and heavy cases; operation of elevators, baling equipment, or mechanical lifting devices such as those used for stacking
Opening	None	All work in opening room
Wool sorting, mixing, scouring, and carbonizing	Sorting and mixing operations	Operating or assisting in the operation of cleaning and baling equipment; work in connection with carbonizing and drying
Picking	None	All work in picker room
Carding	Bringing in and removing sliver and roving cans, and sweeping	All other work in carding room
Drawing	All work	None
Roving	All work	None
Combing	Bringing in and removing laps and cans	Operation of sliver and ribbon lappers and combers
Spinning	Doffing in spinning-mule operations, and all work in other spinning operations	Operations in which spinning mules are used, other than doffing
Spooling, winding, twisting warping, quilling, and beaming	All work other than loading and unloading warpers and beamers	Loading and unloading warpers and beamers
Slashing	None	Operating or assisting in the operation of slashers; also work in the preparation of the size
Drawing-in and tying-in	All work except loading and unloading	Loading and unloading
Weaving	Work as battery hands, bobbin boys, and weavers	Loom fixing, cleaning looms in motion, and warp changing
Knitting, sewing, and boarding	All work	None
Mending	All work other than that requiring heavy lifting	Working requiring heavy lifting
Shearing, brushing, cutting, rolling, and inspecting	All work except shearing and brushing and operations in which a guillotine cutter is used	Shearing and brushing and operations in which a guillotine cutter is used
Napping	None	All operations
Wet finishing	None	All operations
Printing	None	All operations
Folding	None	All operations
Cloth-baling	All work other than that requiring heavy lifting	Work requiring heavy lifting
Dyeing and finishing plants	Laboratory work in dye plant; inspecting and ticketing in finishing plant	All other work in or about dye plant and in subsequent finishing operations
Storage and shipping	Work not requiring heavy lifting or strenuous physical exertion	Operation of fork lifts, electric trucks, cranes, hoists, elevators, or other mechanical lifting or moving devices
Plant engineering and maintenance, and power-plant operation	None	All work such as installing and repairing machinery and oiling or cleaning machinery in motion
Sweeping, scrubbing, and running	All work	None

It Takes Silk to Make Silk Purses

Chemists have performed remarkable feats in overcoming shortages and have even gone so far as to make silk purses out of sows' ears. But it still takes quality materials to produce quality products. That's why dye and textile chemists are depending upon Hooker Chemicals. Though they may not always be able to get all the Hooker Chemicals they would like to have, every shipment they receive is of the same uniform high quality that has been pleasing them for years.

Below are listed some of the Hooker chemicals used in dye and textile fields. More complete information and samples on these and other Hooker Chemicals are available when requested on your letterhead. Hooker's technical staff is also ready now, as always, to give you help in the use of Hooker Chemicals.

PRODUCT Chemical Formula—Molecular Wt.	*HOOKER SPECIFICATIONS*	*SUGGESTED USES*
Benzoyl Chloride C_6H_5COCl; 140.5	Freezing point .....–0.9°C Min.	Manufacture of benzophenone, benzyl benzoates, synthetic perfumes, dyes and pharmaceuticals. In Friedel-Crafts reactions.
Benzyl Chloride (Alphachlortoluene) $C_6H_5CH_2Cl$; 126.5	Boiling Range 5° including .179.4°C	Manufacture of ethyl benzyl aniline, dyestuffs intermediates.
Cyclohexanol (Hexahydrophenol) $C_6H_{11}OH$; 100.1	Cyclohexanol (High Grade)..98% Min. Distillation Range 100% 4°C Max.	Solvent for dyes. Chemical intermediate.
Metanitrobenzoyl Chloride $C_6H_4NO_2COCl$; 185.5	Last crystal point.....28 to 31°C	Manufacture of dyes.
Orthodichlorbenzene $C_6H_4Cl_2$; 147	Freezing Point .....–10 to –22°C Boiling Range 10° including..180°C	Manufacture of pyrocatechin, dye intermediate, other synthetic organic chemicals. Degreasing wool.
Parnitrobenzoyl Chloride $NO_2C_6H_4COCl$; 185.5	Minimum Purity .....95% Melting Point .....70°C Min.	Manufacture of dyes.
Sodium Sulfhydrate NaSH; 56.1	NaSH .....70 to 72% NaOH, Na_2S.....0% NaCl.....1% Max. Na_2SO_3, $NaHCO_3$ .....1% Max. Fe.....5 ppm Max. Cu, Ni, Cr, Mn, Pb ...1 ppm Max. Water of crystallization . 28 to 26%	Desulfurizing rayon; calico printing; in sulfur dye baths.
Sodium Sulfide Na_2S; 78.1	Na_2S.....60 to 62% NaCl.....1.5% Max. Other Na Salts.....2.0% Max. Fe.....10 to 15 ppm Cu, Ni, Cr, Mn, Pb ...1 ppm Max. Water of crystallization.....36.5 to 34%	Desulfurizing rayon; calico printing; in sulfur dye baths.
Sodium Tetrasulfide (Solution) Na_2S_4; 174.23	Na_2S.....40.44% Na_20.....13.72% Sulfur.....30.27% Other Sodium Salts, Max....1.0 %	Manufacture of sulfur dyes.

ARMY E NAVY

HOOKER ELECTROCHEMICAL COMPANY

4 Forty-seventh Street Niagara Falls, N. Y.

NEW YORK, N. Y. • WILMINGTON, CALIF. • TACOMA, WASH.

HOOKER CHEMICALS

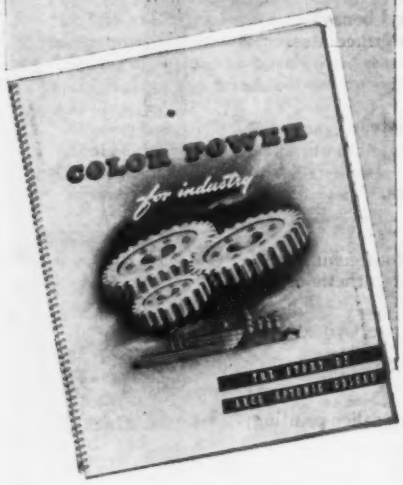
Caustic Soda Chlorine Muriatic Acid
Bleaching Powder Paradichlorbenzene

5333C

This New Science

Optonics

Can Improve Your INDUSTRIAL SAFETY RECORD



SEND FOR THIS Booklet

Optonics is the new science of using color FUNCTIONALLY in industry—to improve safety conditions, production, employee morale and to reduce absenteeism. The Optonic Color System is fully described in a new book, "Color Power for Industry". A note on your business letterhead will bring you a copy with our compliments.

THE ARCO COMPANY
CLEVELAND, OHIO • LOS ANGELES, CALIF.

ARCO
Paints for Industry

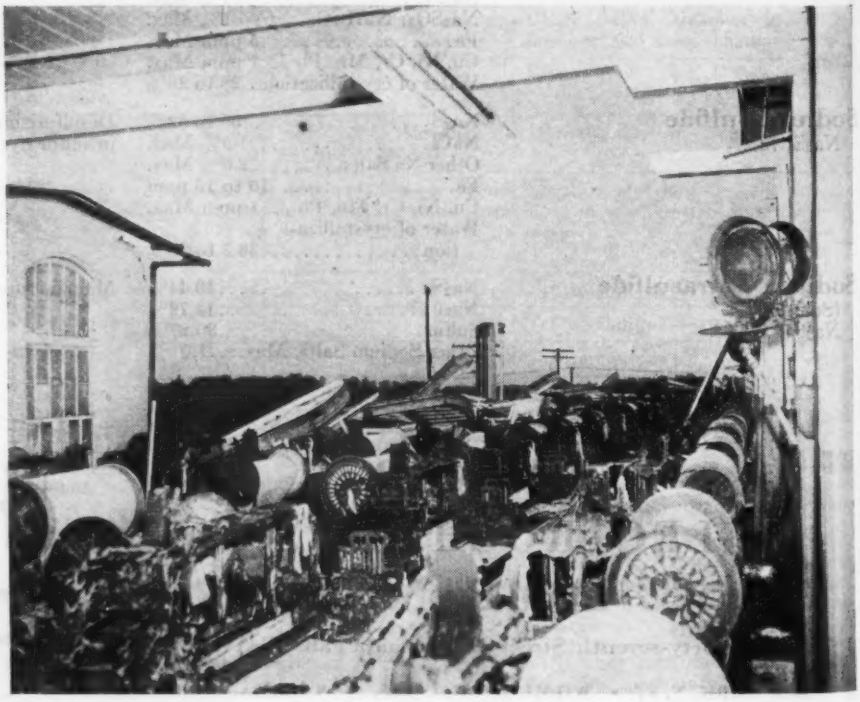
News of the month

Need More Tire-Cord Rayon. Acute shortages of high-tenacity rayon yarn for tire cord has reached the point of severely retarding the 1945 tire program, and consequently the production of military tires and tires needed for war-supporting civilian activities, John L. Collyer, special director of rubber programs, told the Rayon Producers' Segment of the Synthetic Yarn & Tire Cord Industry Advisory Committee which was called to discuss the 1945 and 1946 tire programs and high tenacity rayon requirements. Mr. Collyer is on leave of absence as president of the B. F. Goodrich Co. His statement on the situation was further emphasized by WPB Operations Vice Chairman, Harold Boeschenstein, who stressed the need of meeting the call upon the industry for an immediately increased production of high tenacity rayon yarn. Authorization of production facilities for 48,000,000 lb. additional annually has been made, of which American Viscose Corp. is expected to produce practically all.

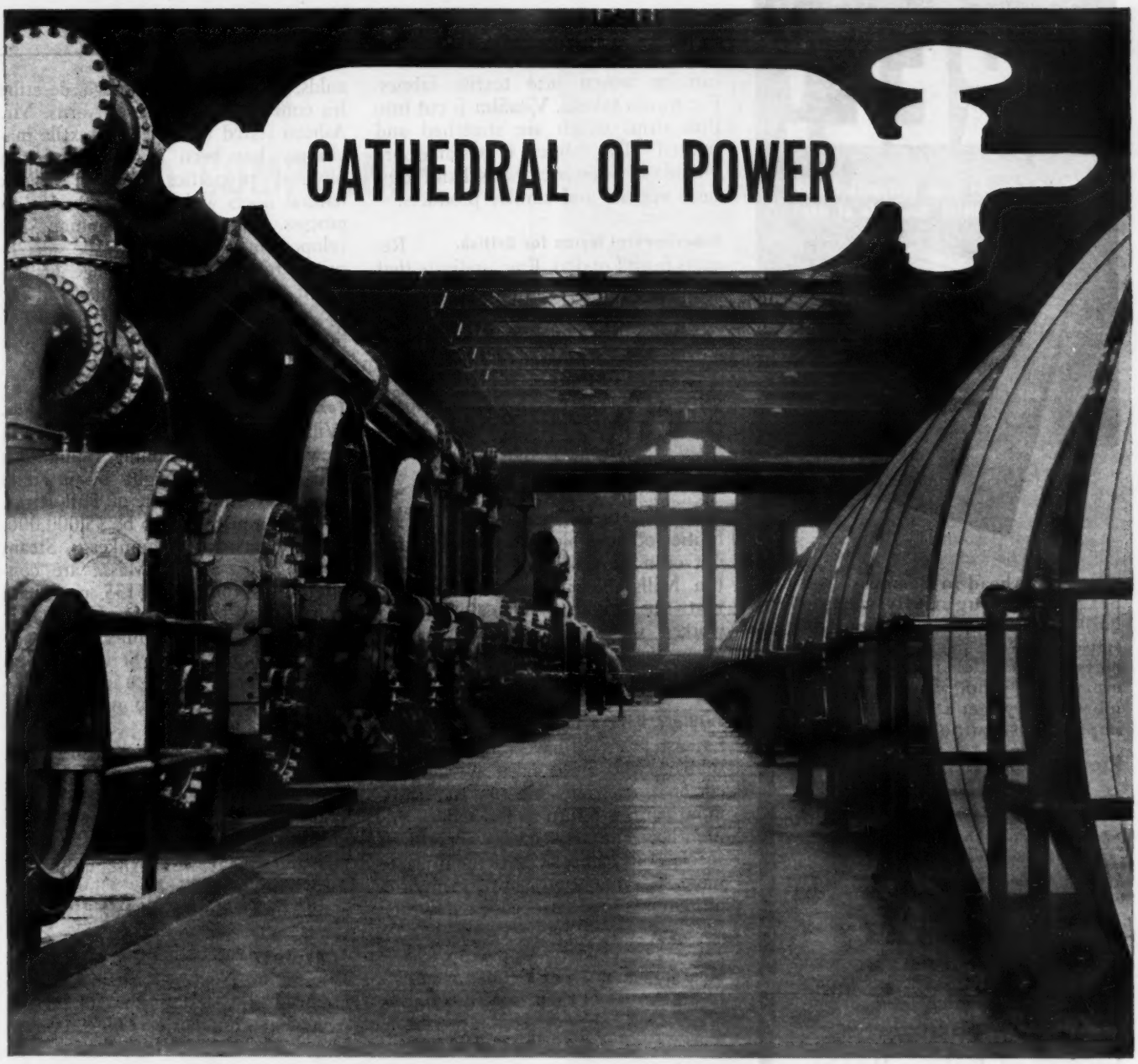
Alabamans Elect Officers. At the annual meeting of the Alabama Cotton Manufacturers Association held on Apr. 17 at Tutwiler Hotel, Birmingham, Ala., the following officers and directors were elected for the coming year: Chairman, George S. Elliott, secretary-treasurer, Dallas Mfg. Co., Huntsville, Ala., president, L. Comer Jennings, president, Cowikee Mills, Eufala, Ala.; vice president, Homer M. Carter, general manager, Pepperell Mfg. Co., Opelika, Ala.; treasurer, Claude M. Elrod, vice president and manager, Boaz Mills, Inc., Boaz, Ala.; secretary, Mary Jane Carlisle, Montgomery, Ala.

Magnesium for Textiles. Dr. Willard H. Dow, president, Dow Chemical Co., in testifying before the special committee of the U. S. Senate to study problems of small business, stated that the textile industry is expected to use 6,000,000 lb. of magnesium before or about the fifth year after the end of the war. It is of interest to note that the textile industry is expected to be the second largest user of this light-weight metal, the aircraft industry being the only one to exceed textiles.

New Range of Plastic Fabrics. The Goodyear Tire & Rubber Co. has announced that Vitafilm, a new lightweight, waterproof packaging material



View in Dundee Mills, Inc., No. 1 mill at Griffin, Ga., showing terry-towel weave room after tornado on April 24. Portion of the building was unroofed and one wall collapsed. The recumbent window frames may be seen to the left. *Wide World Photo*



• *Compressor room, North Plant, Wyandotte Chemicals Corporation, Wyandotte, Michigan. Heart of the processing operations, source of power, gas and air compression, vacuum, and pumping requirements of the North Plant, its shops and salt wells. Here originates power used to transform salt, limestone and coal into alkalies and chemicals.*

WYANDOTTE CHEMICALS CORPORATION

ONE OF THE WORLD'S GREAT PRODUCERS OF CHEMICALS

SODA ASH
CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE
CALCIUM CHLORIDE
CHLORINE
HYDROGEN
SODIUM ZINCATES
AROMATIC INTERMEDIATES
DRY ICE
Other Organic and Inorganic Chemicals

WYANDOTTE CHEMICALS CORPORATION
MICHIGAN ALKALI DIVISION • WYANDOTTE, MICHIGAN

Wyandotte
REG. U. S. PAT. OFF.

VITAL TO VICTORY TODAY—READY TO WORK FOR A GREATER TOMORROW

FREE!

The famous 64-page, fact-packed book that has stimulated thousands of men!

"Forging Ahead in Business" is a practical, thoughtfully-written book with "punch" and common sense on every page. It carries a message of vital importance to every man who wants to make more money, get a better job and improve his station in life.

Partial Contents:

- Law of Success
- Forging a Career
- Organized Knowledge
- Highway of Achievement
- Making Decisions
- Failure and Success

Noted Contributors

Among the prominent men who have contributed to the Institute's training plan, which is described in "Forging Ahead in Business," are: Thomas J. Watson, President, International Business Machines Corp.; Clifton Slusser, Vice President, Goodyear Tire & Rubber Co.; Frederick W. Pickard, Vice President and Director, E. I. du Pont de Nemours & Co.

Simply return the coupon below, and your FREE copy of "Forging Ahead in Business" will be *mailed* to you.

MAIL COUPON TODAY

ALEXANDER HAMILTON INSTITUTE
Dept. 289 71 W. 23rd St., New York 10, N. Y.
In Canada:
54 Wellington Street, West, Toronto 1, Ont.

Please mail me, without cost, a copy of the 64-page book—"FORGING AHEAD IN BUSINESS."

Name.....

Firm Name.....

Business Address.....

Position.....

Home Address.....

can be woven into textile fabrics. For woven fabrics, Vitafilm is cut into thin strips which are stretched and twisted. The fabrics, it is stated, are suitable for shower curtains, hand bags, shoe uppers, and similar products.

Experimental Nylon for British. Reports from London, Eng., indicate that small lots of nylon are being allocated from the local supply to British manufacturers for experimental purposes aimed at development of civilian uses. The industry in the United States is interested because requests for experimental lots have been denied by WPB because of the shortage for critical war uses.

Seeks Variety in Fiber Blends. Possibilities of fiber blends are being tried out on a large scale by Newnan Cotton Mills, Newnan, Ga. It is said that the following fibers are being worked with: cotton, wool, acetate rayon, viscose rayon, Aralac, calf-hair, flax, rabbit-fur, and soy-bean fibers.

Soldiers Return to Active Duty. Quartermaster officials have announced that soldiers who have been working in cotton duck mills for the last three months must return to active duty this month. The servicemen were given special furloughs to work in mills to increase production, until Army requirements made it necessary for each soldier to rejoin his own unit.

Spun Rayon in Great Britain. Members of the AATT at their April meeting in New York heard Harold Ashton, manager of the Arrow Mill of Courtaulds, Ltd. Rochdale, Eng., describe his concepts of spun-rayon yarns. Mr. Ashton stated that present textile machinery has been built around the physical properties of the various natural fibers which it is intended to process. No existing equipment developed in this way can be ideally suited to take full advantage of the latent properties of man-made fibers. He stated that one of the first tasks of the textile technologist is to work out new methods of sliver assembly.

Textile Companies Change Hands. William Whitman Co., Boston and New York, controlling numerous mills, has been bought by interests headed by Albert List, of Fall River, Mass., at a price said to be $5,000,000. Stockholders of Naumkeag Steam Cotton Co., Salem, Mass., are considering an offer of $135 per share from Royal Little, New York. Sale of the seven textile mills owned by New England Public Service Co. in Maine is proposed in a plan for reorganization of that company.

New Interlining. Kendall Mills, Walpole, Mass., are preparing for market a new fabric with directional resiliency particularly for garment interlining. In samples seen, the warp is soft and pliant while the filling has wiry, hairlike resiliency. The material is sold under the brand Perx.

Army-Navy Purchasing Offices. The War and Navy Departments announced the establishment of an Army-Navy Purchasing Office, opened May 1, at 111 East 16th Street, New

Executive committee of Textile Operating Executives of Georgia pictured when meeting at Thomaston, Ga., Apr. 12, to plan a "meeting-by-mail" for the association. The plan is in conformance with the ODT request that conventions be abandoned until the wartime stringency is past. Shown above, front row, left to right: W. H. Gibson, Jr., general superintendent, Martha Mills, Thomaston, Ga.; Joe L. Jennings, superintendent, Fairfax Mill, Fairfax, Ala.; Allen Jones, general superintendent, Pepperell Mfg. Co., Lindale, Ga.; G. H. Smith, superintendent, Pepperell Mfg. Co., Lindale, Ga.; George E. Glenn, Jr., president, Exposition Cotton Mills Co., Atlanta, Ga.; John P. Harrison, general superintendent, Dundee Mills, Inc., Griffin, Ga.; Floyd B. Watson, vice general chairman, Griffin, Ga. Back row, left to right: Robert F. Jessen, research engineer, Callaway Institute, Inc., LaGrange, Ga.; L. R. Brumby, factory manager, Bibb Mfg. Co., Macon, Ga.; Robert W. Philip, president, Callaway Institute, LaGrange, Ga. (secretary-treasurer of association); E. R. Lehmann, superintendent, Langdale Mill, Langdale, Ala.; S. W. Hempstead, general manager, Martha Mills, Thomaston, Ga. (general chairman of association); Hanns Bard, superintendent, Jefferson Mills, Jefferson, Ga.

Use UBS COMPOUNDS for BACKING, COMBINING, COATING

"and do the Job Better"

● In Combining operations, UBS developed Buna Latex Compounds provide a positive one-coat bond, good flexibility, and excellent moisture resistance and ageing qualities. Outstanding in this field is UBS's Formula CT-456-B, which has been extremely successful on the can drier machine.

● When used for Backing, UBS developed Buna Latex Compounds lock the pile firmly to the fabric base, provide good flexibility and ageing, and withstand dye bath temperatures without deterioration. A variety of thoroughly tested formulas, developed for specific problems, are available.

● When used for Coating, UBS developed Compounds form a tough, flexible, contiguous film. A variety of formulas, based upon Ubatex (an original UBS synthetic), Buna, Neoprene, etc., are available. In most instances, special compounding to meet individual requirements is advisable.

Long-time specialists in the fields of Combining, Coating and Impregnating Compounds, the UBS Laboratories are constantly working with all the latest synthetics (Buna, Neoprene, Vinylite, etc.). Recent UBS developments include formulas for an original synthetic latex and a totally new synthetic rubber.

Write today, describing your Backing, Combining and Coating Problems.

Address all inquiries to the Union Bay State Chemical Company, Rubber Chemicals Division, 50 Harvard Street, Cambridge 42, Massachusetts.

UBS

UNION BAY STATE
Chemical Company

Serving Industry with Creative Chemistry

ORGANIC CHEMICALS · SYNTHETIC LATEX · SYNTHETIC RUBBER
PLASTICS · INDUSTRIAL ADHESIVES · DISPERSIONS
COATING COMPOUNDS · IMPREGNATING MATERIALS · COMBINING CEMENTS

FAST COLOR
SPUN ACETATE
YARNS
•
PACKAGE DYED

Colors very good to sun, to washing, to gas fading and to cross dyeing—in decoration or in body of *wearing apparel*, in *automobile fabrics* and in many other cloths

The spinner can put up his yarn on Atlantic Dyetubes.

Large dye batches.

Atlantic Rayon
CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

BRANCH OFFICES
Empire State Bldg., 5th Ave.
New York 1

3701 North Broad St.
Philadelphia 40

York, N. Y., to provide a central point of contact for manufacturers related to both Army and Navy procurement. Col. Thomas W. Jones, QMC, will be commanding officer for the Army Quartermaster Corps, and Commander Marshall W. Tuthill, Supply Corps (USNR), will be supply officer in command for the Navy Bureau of Supplies & Accounts.

New Army Shirting. A 5-oz. uniform twill using 30s combed cotton yarn and 24s in the filling has been adopted by the Quartermaster Corps. This fabric will replace the 6-oz. twill formerly procured for shirtings. Construction is 120x64.

Standard for Hospital Blankets. The Division of Trade Standards, U. S. Department of Commerce, has developed recommended commercial standards for hospital blankets made of wool and also for similar blankets made of part wool.

Duplan Sends Photographs to Service Men. As an expression of good will to the more than 900 former employees of Duplan Corp., Arlington, Va., who are now in the armed services, the president of the company, Ernest C. Geier, recently arranged for the family of each service man to be photographed, and for the pictures to be mailed to the soldier or sailor.

Textile Mills Receive "E" Awards. Four more companies in the textile industry have been awarded the Army-Navy "E" for high achievement in war production. The new awards were presented to employees of Roxalin Flexible Finishes, Inc., Elizabeth, N. J.; United States Finishing Co., Sterling, Conn.; Regent Shops, New York; and Acme Spinning Co., plants No. 1 and 2, Belmont, N. C. Companies which have received additional awards for continued excellence in production are Firestone Tire & Rubber Co., Gastonia, N. C.; Goodyear Clearwater Mills, Cedartown and Rockmart, Ga.; and Union Bleachery, Greenville, S. C.

Chicopee Greets Hero of Iwo Jima. Former co-workers at Chicopee Mills, Manchester, N. H., now manufacturing military bandages, gave an enthusiastic homecoming welcome to Pfc. Rene A. Gagnon, one of the two surviving marines shown in the famous Mt. Suribachi flag-raising on Iwo Jima. Gov. Charles M. Dale greeted the former Chicopee worker upon his arrival.

Textron Provides 100 Memberships in Caterpillar Club. A total of 100 memberships in the Caterpillar Club

The first meeting of the Textile Machinery Committee organized under the New England Regional Committee of the China-American Council of Commerce and Industry, Inc., (30 Rockefeller Plaza, New York) met at Boston on Mar. 29. Shown at the meeting, left to right, front row: H. M. Parks, Parks-Cramer Co.; B. F. Deming, Veeder-Root, Inc.; William M. Fraser, Atwood Division of Farrel-Birmingham Co.; Ernest R. Haskell, H & B American Machine Co. Second row: William Woosman, B. F. Perkins & Son, Inc.; Ralph E. Thompson, Scott & Williams; E. O. Smith, Universal Winding Co.; George S. Mumford, Jr., Scott & Williams; Arthur W. Reynolds, Davis & Furber Machine Co.; W. C. Chisholm, Foster Machine Co. Third row: G. J. Bernard, B. F. Perkins & Son, Inc.; J. E. Burdick, James Hunter Machine Co.; Edward C. Conner, Foster Machine Co.; W. Holway Hill, State Street Trust Co.; Joseph F. Molloy, Crompton & Knowles Loom Works. Back Row: E. N. Darrin, Draper Corp.; L. S. Simons, China-America Council; David F. Edwards, Saco-Lowell Shops, chairman of committee; Ralph E. Flanders, Federal Reserve Bank; William J. Hartney, National Shawmut Bank; E. G. Whittaker, China-America Council. Literature on China was distributed to all present in order that decisions could be reached before a second planning meeting as to the extent individual companies may want to do business in that country.

NATIONWIDE INFRARED SERVICE

Specialists in the application of Infrared Radiant Energy, Fostoria Industrial Service provides the experience of over 3,000 installations. With complete technical facilities, operations of baking, drying, dehydrating are analyzed and pretested to accurately forecast the benefits of Infrared. Call Fostoria for "know-how" utilization of Infrared and sound engineering recommendations.

FOSTORIA INDUSTRIAL SERVICE CENTERS

ATLANTA
140 MARIETTA ST., N. W.
MAIN 2757

BOSTON
620 COMMONWEALTH AVE.
COMMONWEALTH 0333

BUFFALO
404 NORTH OAK ST.
LAFAYETTE 8135

CHATTANOOGA
1021 CHESTNUT ST.
PHONE 6-6194

CHICAGO
747 W. JACKSON BLVD.
RANDOLPH 5942

CLEVELAND
4500 EUCLID AVE.
ENDICOTT 6622

DAYTON
334 WAYNE ST.
FULTON 3594

DETROIT
12171 GRAND RIVER AVE.
HOGARTH 1850

INDIANAPOLIS
548 MASSACHUSETTS AVE.
RILEY 2934

LOS ANGELES
1206 MAPLE AVE.
PROSPECT 7761

MILWAUKEE
104 EAST MASON ST.
DALY 2949

MINNEAPOLIS
2 FOSHAY TOWER
ATLANTIC 7363

NEW HAVEN
(HAMDEN, CONN.)
1240 WHITNEY AVE.
PHONE 2-5985

NEW YORK
92 WARREN ST.
WORTH 2-3352

OMAHA
1102 FARNAM ST.
ATLANTIC 5540

PHILADELPHIA
(BALA-CYNWD, PA.)
349 MONTGOMERY AVE.
GREENWOOD 4477

PITTSBURGH
5339 PENN AVE.
HIGHLAND 9900

ST. LOUIS
1706 OLIVE ST.
CENTRAL 0153

OAKLAND
205 Twelfth St.
Twinoak 4475

SEATTLE
90 DEARBORN ST.
MAIN 0919

CANADA
NORTHERN ELECTRIC CO., LTD.
MONTREAL TORONTO

REQUEST THIS FREE BOOKLET

Gives you fundamental information about Infrared — and Fostoria Evenray Systems.

Case history information applicable to your operation will be included if you send us general facts about your potential use.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO

Independently Affiliated Manufacturers
Southern Industries, Inc., Atlanta, Ga.
Amalgamated Electric Corp., Ltd., Toronto, Canada
EXPORT SALES DEP'T. — 401 Broadway, New York City

Highest Efficiency in the Utilization of INFRARED RADIANT ENERGY

EVENRAY SYSTEM
fostoria
FOR BAKING • DRYING • PREHEATING • DEHYDRATING

Trade Mark Reg. U. S. Pat. Off.

Obermaier

REG. U. S. PAT. OFFICE

Package Dyeing Installation, Extracting and Drying in a complete cycle on the same material carrier

•

Builders of

Cotton & Wool Dyeing Machines

for

Beams • Cheeses • Packages
Cones • Rawstock • Skeins

•

Centrifugal Extractors and Driers

•

Centrifugal Pumps

•

Rayon Cake Dyeing Machines

•

Dye Spindles and Perforated Tubes

☆

STAINLESS STEEL CONSTRUCTION

All Subject to Required Priorities

☆

Standard Fabricators

INCORPORATED

355 WALTON AVENUE • NEW YORK, N. Y.

Replacement Parts for Existing Machines Can Be Furnished

OF 126,215 persons employed in manufacturing in Alabama, only 20% — 24,646 — were women, according to the last census. In both rural counties and heavy industry cities, a large surplus of intelligent women workers is available.

Recently completed studies show that these types of products for which principal raw materials are available from nearby sources, are best suited to labor conditions in Alabama:

Seamless Hosiery, Full-fashioned Hosiery, Ribbons, Braids, All Kinds of Underwear (men's, women's and children's), Sports Wear, Sweaters, Dresses, Aprons (Shop and Tea), Caps, Children's Clothes, Work and Dress Shirts, Men's Wash-suits, Overalls, Work-pants, and Work Socks.

Other favorable factors include skilled mechanics for maintenance and repair; abundant low-cost fuel and power; a rapidly expanding market in the Southeast; favorable taxes, and low cost mill sites.

Specific studies will be made on request. Write Dept. T

ALABAMA
STATE PLANNING BOARD
Montgomery 5, Alabama

EMPLOYEES of S. Rudofkers Sons, in Philadelphia, were the first clothing workers in the United States to sign the "War Worker's Pledge" against absenteeism. Miss Lucy Acampora, shown above, was the first employee to sign the pledge in honor of her brother, Pvt. Sal Acampora, who died in action in Germany. The pledge was inaugurated by Capt. Joseph A. Sutton and Lt. Harold N. Finkelstein of the Philadelphia QM Depot in an effort to impress upon war workers the importance of their jobs and the necessity of continuing to supply U. S. troops with essential combat clothing and equipment.

has now been provided by Textron, Inc. Membership in the club is restricted to members of the armed forces who in emergencies have had to bail out from planes. Each man who uses a Textron-made parachute in such an emergency is given free membership by Textron. The 100th member is Sgt. Lawrence J. Hoover, of Emporia, Kan., whose escape occurred in the European theater.

Employees Exceed War Bond Quota. Employees of the Worcester Knitting Co., Worcester, Mass., exceeded their quota for the Seventh War Loan before the drive officially opened, May 14. Employees buying two or more bonds beside their regular 10% payroll deduction, subscribed $16,000. The quota for the 253 employees was $11,000.

Safety Council Issues Film. The National Safety Council, Chicago, Ill., has issued a new textile safety film, "Woven With Safety," which is being well-received throughout the industry. This is the first film which has been issued covering hazards incident only to the textile industry.

New Executive Set-up for ACMA

At a brief and businesslike meeting, greatly curtailed in point of attendance, held by American Cotton Manufacturers Association at the Biltmore Hotel, Atlanta, Ga., Apr. 25, an amendment to the bylaws paved the way for a new executive set-up. Dr. W. P. Jacobs, lately secretary, was elected president and treasurer with power to appoint the secretary. A new office, chairman of the board, was filled by election of Chas. A. Cannon.

Others elected included: first vice-president, W. S. Montgomery; second vice president, Fuller E. Callaway; to the board of governors were added S. M. Beattie, A. G. Myers, E. S. McKissick, Elmer Rees, Norman Elsas; to executive committee, A. G. Myers, W. D. Anderson, Hugh Comer, R. E. Henry.

Harrison Hightower, in his address as retiring president, bespoke confidence in the new Administration in Washington. Textile mill management, he said, has demonstrated its patriotism in producing much needed goods during the war emergency in spite of high wages and low income from goods sold.

Problems will multiply with the end of the war, he predicted. Free trade and lowered tariff will help some, hurt others.

He particularly voiced a warning in connection with textile machinery export. "If we equip our good friends and neighbors with modern machinery and add to their already great advantage, we are really going to suffer," he said.

The association went on record as condemning the recent announcement that the new NWLB schedule of wages does not require any advance in ceiling prices; and as requesting OPA to discontinue the use of its "Net Worth Formula" in arriving at the ceiling prices for cotton textiles and adopt a sound, simple method for each major item of textiles, which will reflect (a) parity price for cotton, plus (b) present day cost of converting cotton into the textiles, plus (c) fair and reasonable margin of profit contemplated by the Emergency Price Control Act.

The new president, Dr. Jacobs, at the close of the meeting said that it would be his endeavor, and the main objective of the association, through the coming year to "create conditions that will enable us to make, and operate, a profitable industry".

Fairbanks-Morse Scales

Help Speed Production, Guard Accuracy

In textile production Fairbanks-Morse Scales help check and record quantity as work moves from department to department. And, where volume plays a part in payrolls, accurate printed records from Fairbanks-Morse Scales forestall disputes, assure accuracy. In weigh counting, in checking incoming and outgoing shipments, and in many other mill operations you'll find Fairbanks-Morse Scales serving with outstanding satisfaction. They're fast, they're adaptable, and as production tools help eliminate chances for human error.

Why not get details on how Fairbanks-Morse Scales can help you solve production problems. Write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

Illustrated left is a Fairbanks-Morse Platform Warehouse Scale with direct-reading cabinet dial. Also available with Printomatic attachment.

Fairbanks-Morse

A name worth remembering

Diesel Locomotives • Diesel Engines • Generators
Motors • Pumps • Scales • Magnetos • Stokers
Railroad Motor Cars and Standpipes • Farm Equipment

BUY MORE WAR BONDS

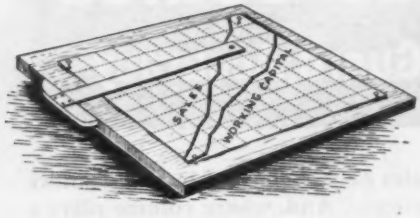
NATIONAL COTTON WEEK

MAY 21-26

Observe Cotton Week by spreading this fighting theme for cotton through your newspaper, magazine, direct-mail, radio, and outdoor advertising. For electros or mats of the illustration and theme shown on this page, or for information on four-color mail enclosures and posters for use on outdoor boards, write: Cotton-Textile Institute, 320 Broadway, New York 7, N. Y.

COTTON-TEXTILE INSTITUTE—NATIONAL COTTON COUNCIL

Your Inventory is your Collateral for Bank Loans



PLAN NOW!

For A-C-T-I-O-N *in the immediate Post War Period*

Commodity Inventories of raw materials, semi-finished or finished products remaining on your own premises can be s-p-e-e-d-i-l-y collateralized, so that you may obtain additional working capital from your Bank or other Lending Agent over and above your present line of Credit.

The St. Louis Terminal Warehousing Division's "reasonable method" of establishing actual warehousing operations on your own premises, will assure you a decided competitive advantage for immediate action in the Post War Period.

WRITE NEAREST OFFICE for FREE Illustrated Booklet...No Obligation Strictly Confidential.

Field Warehousing Division

ST. LOUIS TERMINAL WAREHOUSE CO.
SERVING INDUSTRY FOR TWENTY YEARS
GENERAL OFFICES - ST. LOUIS MO.
CINCINNATI • KANSAS CITY • CHICAGO • MEMPHIS

Free FOR THE ASKING

MANUFACTURERS' BULLETINS

READERS interested in literature reviewed on this page may secure copies with time-saving coupon on page 222. Mark what you want on it and send it to Textile World, 330 West 42nd St., New York 18, N. Y. Be sure to give your name and company connections.

1. Technical Bulletins No. 762 and No. 769 have just been issued by Calco Chemical Division, American Cyanamid Co. The first bulletin, entitled "Wool Dyeing: Effect of Variations in Wool," discusses the effect of heat, light, weathering, scouring, carbonizing, fulling, and practically all other treatments to which wool is normally subjected in manufacture. Numerous charts show the effect of segregation of the fibers caused by subjecting wool to various treatments. The second bulletin entitled "Piece Dyeing of Army Worsted and Woolen Uniform Cloths" offers various dyeing formulas for the fabrics being procured by the Army Quartermaster Corps.

2. Color reaction to crease-proof finishing with Resifin No. 2 is covered in Bulletin No. 310, offered by Ciba Co. Inc. The bulletin indicates to the dyer the end result he may expect when dyed spun-rayon fabrics are subjected to crease-proof finishing with urea formaldehyde resin. The dyestuffs listed include the direct and development colors dyed on spun rayon and a selected group of neutral dyeing acid colors dyed on a 50-50 spun rayon-wool blended fabric.

3. "Getting the Most from Winding," No. 50 of a series, discusses bobbin spool attachment for No. 50 winding machines, preventing yarn warp on the Roto-Coner, an automatic sizing mechanism on the Roto-Coner, and a high lift pawl for the No. 60 doubling machine. Mechanism illustrations are shown in this leaflet published by Universal Winding Co.

4. "Machinery, Hours, Production and Labor Costs" is the title of an article discussed in the April issue of *Davis & Furber News*, published by Davis & Furber Machine Co. This article considers such machinery as pickers, shredders, and other preparatory machinery, and more production with modern tape condensers.

5. A self-cleaning turbomatic atomizer is discussed in the March issue of *Parks' Parables*, published by Parks-Cramer Co. This article points out various items which must be considered when installing this type of humidifier.

6. A spinning frame drum-spreader which is operated hydraulically is illustrated and described in a folder being offered by Columbia Supply Co. This spreader is designed to spread the drums on spinning, twister, and spooler frames and similar machinery and to permit easy removal of bearing and connecting shaft without damage to the cylinder or cylinder head.

7. "Memphis, Tenn.—Today's Most Logical Location for Cotton Mills" is the title of a 16-page booklet issued by the Memphis Chamber of Commerce. The booklet points out seven different reasons based upon census surveys and analyses of cotton markets all over the country, why this city is the logical location for cotton mills.

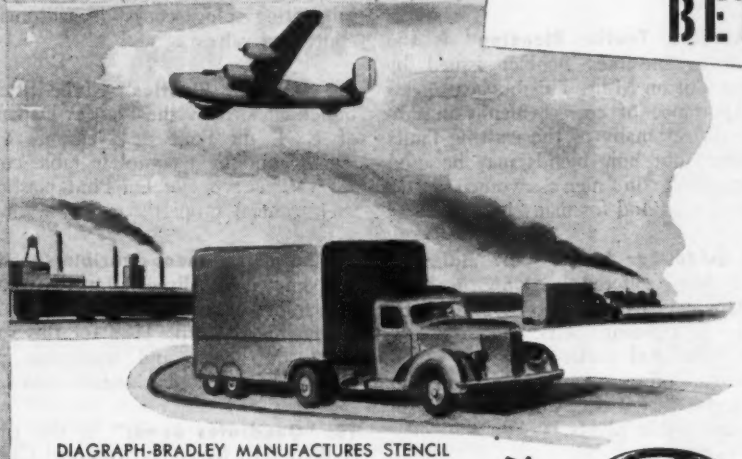
8. Shipments of rayon filament yarns are plotted on a quarterly basis according to allocated and non-allocated end uses as given in the March issue of *Rayon Warp Sizing Specialist*, published by Charles B. Johnson Machine Works. This chart covers such end uses as tire allocation, non-tire rating, export, silk and nylon replacement, and pre-war, non-tire civilian uses.

9. A fuel economy chart is given in Issue No. 1 of *Armstrong Trap Magazine*, published by Armstrong Machine Works. This chart indicates good industrial practice to get the highest possible efficiency from a plant's heating and processing equipment, and suggests various economies whereby greater B.t.u. may be obtained from the fuel.

10. Multi-Lap Machine for continuous dyeing of fabrics is illustrated and described in the March issue of *Electromet Review*, published by Electro Metallurgical Co. The machine illustrated is constructed of stainless steel.

11. How to relieve nervous tension through the use of proper color harmony in working areas is discussed in the March issue of *Building Maintenance*, published by Truscon Laboratories, Inc. This article points out that today's strikes, slowdowns, accidents, injuries and absenteeism are usually the result of tension

BETTER INKS
BETTER DELIVERIES



DIAGRAPH-BRADLEY MANUFACTURES STENCIL CUTTING MACHINES FOR EVERY SHIPPERS NEEDS.

Letter sizes ½", ¾", ⅞", 1¼", 1½" and 1¾".

*Reg. U. S. Pat. Off.

STENCIL ADDRESS YOUR SHIPMENTS

CLEAR... EASILY READ... PERMANENT STENCIL ADDRESSED SHIPMENTS will help to speed and insure their delivery on time.

DIAGRAPH-BRADLEY non-settling, non-clogging Stencil and Marking inks have been developed through 50 years of research to do a better marking job. A DIAGRAPH-BRADLEY ink is manufactured for every marking need in black and colors, meeting all Government performance specifications.

COMPLETE SHIPPING ROOM SUPPLIES

D.B.* **DIAGRAPH-BRADLEY**
STENCIL MACHINES
NO. 62 DIAGRAPH-BRADLEY BUILDING
ST. LOUIS 8, MISSOURI
Distributors in Principal Cities
See Classified Section-Telephone Book • STENCIL CUTTING MACHINES

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF STENCIL CUTTING MACHINES

AVAILABLE SOON

New ZEPHYR HYDRAXTOR

RADICAL *in design*
STARTLING *in performance*
SIMPLE *in operation*
LARGEST *in capacity*

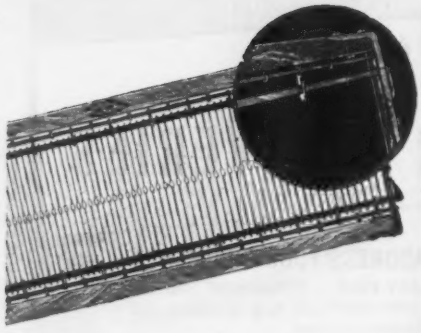
HYDRAXTOR HIGHLIGHTS:

Remarkable time and labor saver—field tests prove 50% to 75% time savings per extractor load; actual loading and unloading time only 30 seconds each; cycle of operation 8 loads per hour • No noise or vibration • Absolute safety • Easy to install and maintain • Never needs balancing • No moving parts • Minimum horsepower required • Small standard motors • Cannot tear or damage clothes • No hard dried extractor wrinkles • Uniformly successful on all types of work.

The New Zephyr HYDRAXTOR Represents the First New Method in the Extracting Field for the Past 50 Years

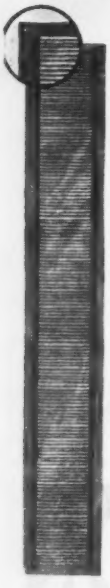
HYDRAXTOR COMPANY

2034-50 W. FULTON STREET, CHICAGO 12, ILLINOIS



Reeds

Harness, Shuttles and General Textile Mill Supplies



WALDER rayon Reeds are made with a special super-flexible, semi-oval dent wire, which reduces imperfect cloth to a minimum.

Knots are passed freely, preventing chafing or cutting of warp ends. Test a sample installation.

We also supply

RAWHIDE PICKERS
LEATHER PICKERS
BUMPER STRAPS
CABLE CORD
LINEN THREAD
PICKER ROD WASHERS
SCISSORS
HOLDUPS
LUG STRAPS
CLOTH PICKERS
STEEL HEDDLES
COUNTING GLASSES
TEMPLE ROLLS
TRAVERSE WHEELS
PORCELAIN PRODUCTS
REED OIL
SPINDLES
FALSE REED WIRES
SHUTTLE FURS
CROSSING COTTON
RESSORT SPRINGS
LOOM SPRINGS
LINGOES
PICKER STICKS

JACOB WALDER CO.
188 River St.
PATERSON, N. J.

caused by prolonged wartime production under pressure.

12. "Modern Textile Blending" is the title of a consumer booklet issued by Newnan Cotton Mills. This booklet covers the importance of correct blends in fabrics to correct many of the existing faults and points out how blends may be used advantageously in men's, women's and children's wear and for many home uses.

13. A guide for better belt maintenance is being offered by Du-Grip Mfg. Co. This 15-page booklet covering such subjects as cleaning belts, treating new leather belts, and under-oiling and excessive oiling, offers many suggestions to those whose duty it is to care for belting in and about textile plants.

14. Slashers in a rayon mill are discussed in the March-April issue of *Oakite News Service*, published by Oakite Products, Inc. This article discusses the cleaning of slashing equipment and removal of size and gum deposits. The article states that the mill used the same solution to clean loom harnesses and to keep concrete floors in aisles and under looms free of oil and dirt.

15. Information concerning silicones is published in material recently issued by Dow-Corning Corp. A bulletin covering Dow-Corning 993 Silicone describes this high temperature varnish insulation and sets forth specifications for electrical installations. Samples of insulation on varnish glass cloth and bonded mica glass cloth are shown. Another use of silicones is in the creation of a stable lubricant. A leaflet entitled "Dow-Corning Plug Cock Grease" describes the properties and suggests applications for this particular type of silicone lubricant which is designed for lubricating plug cocks in automatically controlled valves.

16. "Du Pont Plastics" is the title of a bulletin issued by the Plastics Department of E. I. du Pont de Nemours & Co., which contains a complete table covering the various types of Du Pont plastics and their general properties.

17. An instantaneous varible-speed control known as Allspeed Drives is covered in a folder offered by Worthington Pump & Machinery Corp. Uses for this variable drive are given, and numerous photographs show practical installations.

18. "Quadrafos Beads" is the title of Bulletin 310 issued by Rumford Chemical Works. These beads are used in making sodium tetraphosphate solution. Dissolving methods are given and also properties of 20% Quadrafos stock solution are listed.

19. Installation and maintenance instructions for industrial thermometers are covered in a bulletin just released by Western Electrical Instrument Corp. Various types of industrial thermometers are mentioned and installation instructions given. Calibration check, adjustment, and reassembling of the thermometer are discussed.

20. A new desizing enzyme for solubilizing starch sizes is discussed in the March issue of *The Rohm & Hass Reporter*, published by Rohm & Hass Co. This article covers the development of this new desizing agent and tests for effect of temperature upon the sizing.

PASTE IT ON A POSTCARD

This mailing coupon is a convenient size to paste on a penny postcard. **Circle the numbers of the catalogs you want** which correspond to the numbers on the descriptive paragraphs. Fill out the coupon **legibly** and **completely.** Paste it on a postcard, or put it in an envelope if you prefer, and mail it to Textile World, 330 W. 42nd St., New York 18, N. Y.

MAILING COUPON

TEXTILE WORLD,
330 West 42nd St., New York 18, N. Y.

I have circled below the catalogs I want, as listed in your May, 1945, "Free Asking."

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

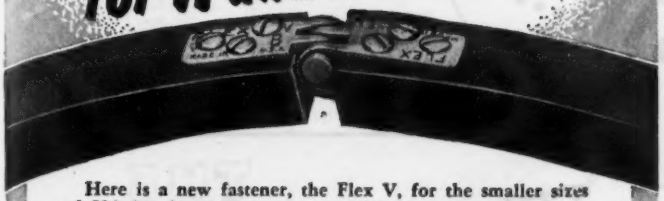
My Name ..... Title .....
(PLEASE PRINT)

Company .....

Street ..... City & State .....

and now the **FLEX V** TRADE-MARK

A new Fastener for A and B V-belts



Here is a new fastener, the Flex V, for the smaller sizes of V-belts that is going to establish the same outstanding performance record as the Alligator V-belt fastener has already established for the larger sizes of V-belts.

This new Flex V fastener is made in two sizes for A and B section V-belts. It is simple in design, easy to apply and the separable hinge joint makes for quick replacement of V-belts without dismantling shafting or machinery. No metal touches the pulley so Flex V fastened belts can be run on a V-flat drive.

Folder No. V-12 gives complete details on this new Flex V fastener with list prices, special tools and application information. Your request will bring a copy.

Order from your supply house

FLEXIBLE STEEL LACING CO.

4630 LEXINGTON ST., CHICAGO 44, ILLINOIS

Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts. Alligator V-belt Fasteners for V-belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

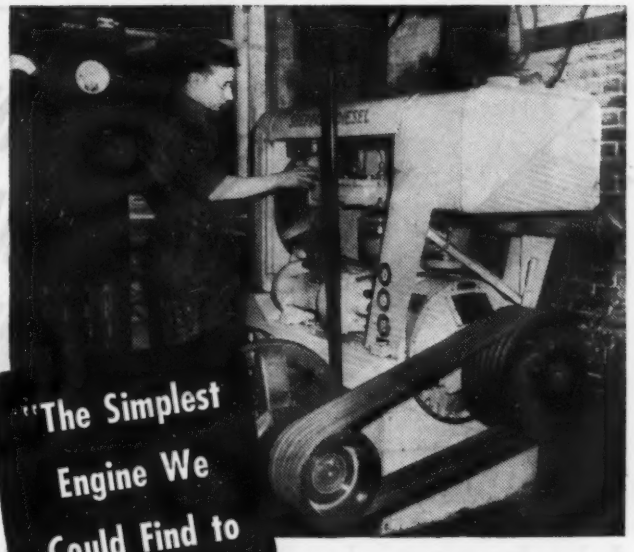
STANDARD SILICATES

ALKALI

DEPENDABLE-UNIFORM

Combining high soil-suspending power with controlled alkalinity over a wide range, STANDARD TEXTILE SILICATES are made in grades to meet your particular needs *exactly!*

DIAMOND ALKALI COMPANY
STANDARD SILICATE DIVISION
GENERAL OFFICES: PITTSBURGH, PENNSYLVANIA
Plants at CINCINNATI · JERSEY CITY · LOCKPORT, N.Y. · MARSEILLES
DALLAS, TEXAS



"The Simplest Engine We Could Find to Do Our Job"

SAYS HENRY RIEHL & SON OF PHILADELPHIA

"Power for the entire machine shop of Henry Riehl & Son of Philadelphia, Pennsylvania, is supplied by one Model #6 25-horsepower, Sheppard Diesel which was installed in June, 1941, and has been running nine hours a day, six days a week, ever since. The company manufactures narrow fabric textile machinery, working in both metal and wood. The various machine shops are housed in several adjoining buildings and on several floors, and contain both standard and special woodworking machines as well as a completely equipped machine shop. There is a total of eighty machines, the power for all of which is supplied by the Sheppard Diesel. (Note: The machines are never all in operation at the same time.) The Sheppard Diesel was chosen because, in the words of Theodore H. Wagner, one of the partners in the firm, 'it was the simplest engine we could find that would do the work.' Moreover, their own employees are able to fix minor troubles when and if they arise, without the necessity of calling in experts for maintenance work.

"Dependability, cheapness of power, low maintenance cost and quick starting, with power available when needed and shut off when not needed, were the characteristics required by Henry Riehl & Son, and the Sheppard Diesel amply fills these requirements. No other engine was previously used for power, and commercial power could readily be bought, but at greatly increased cost. Figures are not available to demonstrate accurately the savings that have been realized, but Mr. Wagner states that 'the Sheppard Diesel has paid for itself in the time we have had it.' When asked the opinion of the plant management concerning the performance of this engine, Mr. Wagner said, 'we think so much of it that we're going to order a larger unit.' He had particular praise for the efficiency and promptness of the Service Department of R. H. Sheppard Company.

"Last December the engine was overhauled, after three and a half years of service, and is now in new working condition. Apart from this overhaul, there has been no major expense for maintenance or repair."

Your priority may entitle *you* to a Diesel right now. Do as Riehl did—specify Sheppard and let the Diesel pay for itself. Write today for free bulletins and advice about obtaining WPB approval.

POWER UNITS; 8 TO 50 HP • GENERATING SETS; 3 TO 30 KW

Sheppard ALL AMERICAN DIESEL POWER UNITS

R. H. Sheppard Company, 1137 Middle St., Hanover, Pa.

Please send me free literature describing Sheppard Diesel Power Units.

Name----------

Firm Name----------

Address----------

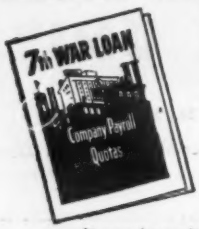
IT'S UP TO YOU TO HELP MAKE 2=3 WITH...

A job for seasoned executives—this 7th War Loan! Especially when we've got to make 2 war loans total just about as much as all 3 in 1944! Putting this over demands the combined and *continued* efforts of the "No. 1" men of American industry.

This means marshaling your plant drive to make every payday—from now 'til June 30th—do its share toward the success of the 7th. Directing the drive is not enough. It's equally important to check to see that your directions are being carried out—intelligently!

For example, has every employee had:

1. **an opportunity to see the new Treasury film, "Mr. and Mrs. America"?**
2. **a copy of "How To Get There," the new Finance Division booklet?**
3. **a new bond-holding envelope with explanation of its convenience?**
4. **7th War Loan posters prominently displayed in his or her department?**
5. **information on the department quota—and an urgent personal solicitation to do his or her share?**



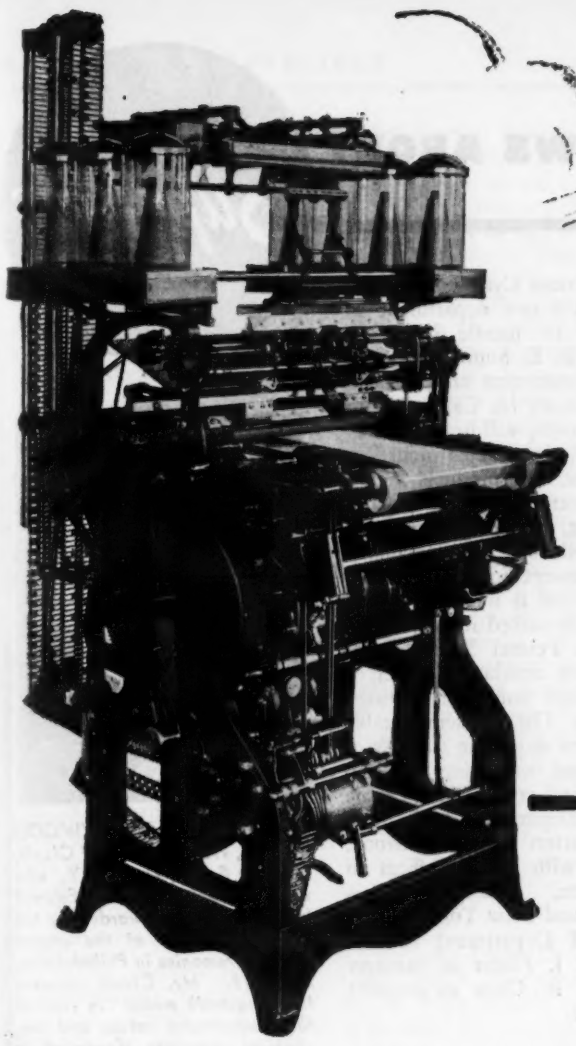
If you haven't a copy of this important booklet, "7th War Loan Company Quotas," get in touch immediately with your local War Finance Chairman.

Remember, meeting—and beating—your highest-yet 7th War Loan quota is a task calling for "No. 1" executive ability. Your full cooperation is needed to make a fine showing in the 7th! Do not hesitate to ask your local War Finance Chairman for any desired aid. It will be gladly and promptly given.

The Treasury Department acknowledges with appreciation the publication of this message by

TEXTILE WORLD

★ *This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★



LIMITED TIME

MAN-POWER SHORTAGE

PERFECT MATCHING

COTTON YARNS

FINER GAUGES

SYNTHETICS

COMBINATIONS

It has withstood the pressure of all war-time demands . . .

WILDMAN

Single-Head, Single Unit, Full-Fashioned

HOSIERY MACHINE*

It is built to meet the even greater demands of the post-war era in stockings. The ever-growing call for sheerness, regardless of type of yarn, will make trouble for the mill that is still operating with leggers and footers—causing a high percentage of rejects and seconds because of bad matching and lack of uniformity. This Wildman machine—on the other hand—produces

A COMPLETE AND PERFECT STOCKING IN ONE CONTINUOUS OPERATION

It is doing a fine job in hosiery mills through the land—saving time and man hours and delivering a highly superior product. It *definitely* belongs in *your* post-war picture.

Buy WAR BONDS

WILDMAN MFG. CO.

NORRISTOWN, PA.

**Because of war work, our production for civilian purposes is limited to supplying repair parts.*

G. Harry Hill

(G. HARRY HILL)
of Providence Office
says:

"A TENSION WASHER

that supplies an even tension on all of the ends of a creel is very essential in the first step of making up a good warp.

Ste-Hed-Co Tension Washers are accurately ground after stamping and then hard chrome plated and buffed, in order to give a smooth surface and maximum wear.

We are equipped to manufacture these washers in various weights and sizes and if, after equipping with our washers, additional weight is required, this can be obtained by inserting plain or cadmium plated washer weights inside of the top tension.

Let us give you a demonstration."

STEEL HEDDLE MFG. CO.
2100 W. Allegheny Ave., Philadelphia 32, Pa.
and
SOUTHERN SHUTTLES DIVISION
621 East McBee Ave., Greenville, S. C.

NEWS ABOUT Suppliers

American Cyanamid Co. has formed a new department expressly to handle its textile resins. R. E. Sumner, who has been department sales manager of dyestuffs for Calco Chemical Division, will head the Textile Resin Department as manager. The products included cover those for crease-proofing, mildew-proofing, water-repellency, fabric stability, etc. Lanacet for wool shrinkage control is included among the trademarked items, together with Permel 33 for crease and spot resistance; Lacet, a permanent finish for nettings; Aerotex 120, a semi-durable finish for imparting stiffness of hand and increasing body in cotton and rayons. The Textile Resin Department will have headquarters at Bound Brook, N. J., with branch offices in Charlotte, Chicago, Providence, and New York. Calco's Dyestuff Department has appointed J. Pfister as manager and A. B. Clow as assistant manager.

Jacques Wolf & Co., Passaic, N. J., has appointed Frank L. Fassnacht as technician and demonstrator. He will make his headquarters in Boston and cover Massachusetts, Vermont, New Hampshire and Maine.

Sonoco Products Co. of Canada Ltd., Brantford, Ontario, recently purchased the assets and equipment of G. & M. Tubing Co. Ltd., Granby, Quebec, which it will operate as the Granby Division of Sonoco Products Co. R. J. Fletcher will have charge of operations at both Brantford and Granby.

C. E. MASON, who has been appointed technical director of the Bristol Co., Waterbury 91, Conn. From 1925 until 1941 he was associated with the Foxboro Co. and from 1940 until joining Bristol he was director of engineering of the Mason-Neilan Regulator Co.

SANFORD LOCKWOOD CLUETT, vice president of Cluett, Peabody & Co., Troy, N. Y., who was 1945 recipient of the Edward Longstreth medal awarded by the Franklin Institute at the annual medal ceremonies in Philadelphia, April 18. Mr. Cluett receives the Longstreth medal "in view of the fundamental nature and mechanical ingenuity displayed in the development of the process for the pre-shrinking of woven fabrics, known as Sanforizing."

Warwick Chemical Co., West Warwick, R. I. has opened sales offices in Chicago, Ill., at 616 South Michigan Ave., in the Petroleum Building. Maurycy Bloch is in charge. Mr. Bloch was formerly with American Wax Refining Corp., Jersey City, and Petrolite Corp., Ltd., St. Louis, Mo.

Devoe & Raynolds Co., New York, has purchased the Beckwith-Chandler Co, Newark, N. J. This acquisition is part of Devoe & Raynolds' plant for postwar development. The acquired company has for many years specialized in railroad and industrial product finishes. Clarence W. Slocum, president of Beckwith-Chandler, will continue as president of the Beckwith-Chandler division of the Devoe & Raynolds Co., of

which latter company Elliot S. Phillips is president. Devoe & Raynolds have also acquired the Truscon Laboratories, Inc., Detroit, Mich., with their anti-corrosive, water- and dampproofing, and maintenance finishes. R. A. Plumb, president of Truscon, will continue as president of Truscon Division, Devoe & Raynolds.

National Starch Products, Inc., New York, has appointed Stanley E. MacDonald as comptroller. He was recently vice president of the Brooklyn Cooperage Co., a subsidiary of American Sugar Refining Co.

United States Testing Co., Inc., Hoboken, N. J., offers a refresher course in textiles and testing technics to be held in its main laboratories from Jul. 9 to 27.

Standard Mill Supply Co., Pawtucket, R. I., has appointed Hamilton P. Dunbar, formerly with Abbot Machine Co., Wilton, N, H., as a traveling representative.

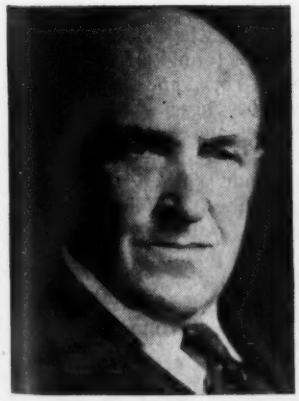
Interchemical Corp., New York, has elected Dr. A. E. Gessler a vice president of the corporation. He has been since 1934 director of research in charge of the company's research laboratories.

Carolina Loom Reed Co.'s plant in Greensboro, N. C., was damaged by fire with a loss of more than $11,000. E. J. McPheeters, owner, expects to have plant ready again for operations within a few weeks.

The Dayton Rubber Mfg. Co's. Textile Division, Dayton Ohio, held the annual meeting of its field engineers under Joe Cole, manager of the division, at the company's Thorobred Division plant, Waynesville, N. C. Those attending were: J. O. Cole, Greenville, S. C., manager, Textile Division; Carl Turner, Lowell, Mass.; Joseph Davis, Boston, Mass.; Harold Goller, Philadelphia, Pa.; Thomas A. Sizemore, Salisbury, N. C.; Thomas W. Meighan, Atlanta, Ga.; Kenneth Karns, Greenville, S. C.; Emory Howell, research engineer, Laurens, S. C. Dayton Rubber has appointed Harry J. Littlejohn, Jr., as service engineer for the Carolinas, under J. M. Hubbard, southern district manager, Mechanical Sales Department. Mr. Littlejohn was formerly personnel director for the Steel Heddle Mfg. Co., engineering draftsman for J. E. Sirrine & Co., and sales representative for Piedmont Reed. He was recently honorably discharged after service in the armed forces.

Arthur D. Little, Inc., Cambridge, Mass., has added Dr. W. B. Pings, organic chemist, to its staff. He was previously at the experimental station of E. I. du Pont de Nemours & Co., Wilmington, Del.

E. I. du Pont de Nemours & Co., Wilmington, Del., in its annual report notes the largest production volume of any year in its history and the lowest operating income after taxes of any year since 1938 except one. Total volume reached $962,217,000, a 3% gain over the previous year, income from



VEEDER-ROOT, INC., Hartford, Conn., is making two changes in its branch office at Greenville, S. C., effective June 1. Edwin Howard (left), who has been southern district manager at Greenville since the opening of that office in 1932, has asked to be relieved of full responsibility. Robert W. Bailey (right), formerly attached to the Greenville branch, will assume charge there as southern district manager. Mr. Howard will continue in an advisory capacity as textile consultant.

Claude W. Cain

(CLAUDE W. CAIN)
of Greensboro office
says:

"Here is the most economical and most satisfactory

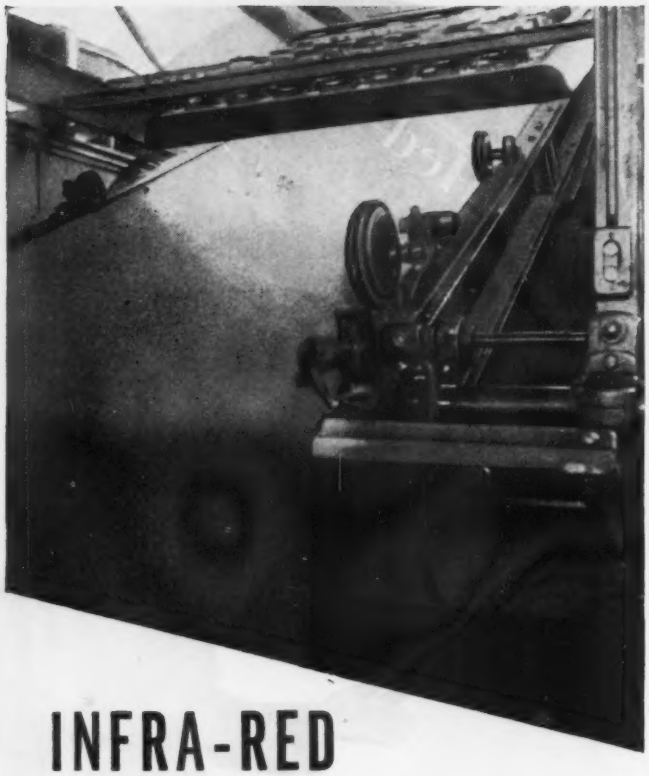
SHUTTLE
you can possibly use—

It's made by Southern Shuttles Division from Tempered Dogwood, Persimmon Wood or Fibre-clad for all classes of weaves, from the coarsest duck fabrics to the finest rayons, nylons and silks.

There is a large choice of patented eyes from which to choose that eliminates the usual shuttle trouble.

Let us give you a demonstration."

STEEL HEDDLE MFG. CO.
2100 W. Allegheny Ave., Philadelphia 32, Pa.
and
SOUTHERN SHUTTLES DIVISION
621 East McBee Ave., Greenville, S. C.



INFRA-RED

UNIT INCREASES PRODUCTION 40% ON THIS WOOL DRIER

In the Philadelphia plant of Continental Mills, Inc. far-sighted plant technicians decided on infra-red to step up production. They added the bank of Wabash-Birdseye Infra-red Heat Lamps that you see just above the tentering frame. This one simple change immediately brought about an amazing result — production of the drier actually increased 40%.

WABASH-BIRDSEYE INFRA-RED

drying is clean, simple, inexpensive. Drying units can usually be added to existing equipment with a minimum of time and expense, and with little or no alteration of permanent equipment. Sometimes portable units are used. It is worth your while to investigate Wabash-Birdseye Infra-Red Heat Lamps, the new drying method that has increased production for so many other mill owners.

WABASH-BIRDSEYE INFRA-RED

Heat Lamps are standard for most infra-red tunnels, ovens, and other production line installations. In adapting your equipment to achieve the really dramatic results possible with Infra-red, remember that Infra-red heating is a science; and, for maximum efficiency, Wabash-Birdseye Lamps should be used with scientifically engineered equipment. We will gladly furnish names of manufacturers of such equipment.

Wabash Appliance Corporation

345 Carroll Street, Brooklyn 31, N. Y.

WABASH-BIRDSEYE

First in INFRA-RED

operations after taxes declined 8% to $43,343,391, and net income from all sources, including operations, fees and return from investments was $80,870,106 after taxes, an increase of 16% over 1943.

Sullivan Machinery Co., Claremont, N. H. has elected John A. Morrow as president, and Frederick W. Copeland, former president, has become chairman of the board of directors. Other officers are Arthur Knoizen, executive vice president; Leon T. Noel, vice president and treasurer; Gilbert K. Wilson, secretary.

Pennsylvania Salt Mfg. Co., Philadelphia, has appointed A. S. Woodard as assistant chief engineer. He was formerly senior chemical engineer. J. P. Evans is now senior electrical engineer; R. R. Walden, senior mechanical engineer; P. F. Dorney, senior civil engineer; and J. W. Dadley, senior design engineer.

Textile Book Publishers, Inc., 303 Fifth Avenue, New York 16, N. Y., has been formed to encourage, create and publish distinctive and authoritative guides, manuals, reference, and textbooks on textile and related subjects. H. R. Mauersberger is president.

Westinghouse Electric Corp. East Pittsburgh, Pa., is the new name for Westinghouse Electric & Mfg. Co., adopted by stockholders at their recent annual meeting. They also voted to split the company's stock on the basis of four shares for one. George G. Main has been elected assistant treasurer and assistant secretary of Westinghouse, and he will also assume

OLIVER D. LANDIS, of Charlotte, N. C., who has established his own business to market to textile mills in the Carolinas and Virginia a complete line of transmission leather belting, mechanical leather specialties, and also a line of slasher, roller, and clearer cloth. For a period of 20 years prior to the war, Mr. Landis was sales representative in the above territory for Graton & Knight Co. Since 1942 he has been in the Navy but was lately returned to inactive status. Products marketed by Mr. Landis will be branded under his own name.

the responsibility as the company's credit manager. Westinghouse has elected Ellis L. Spray as a vice president in charge of elevator and air-conditioning activities of the company at Jersey City, N. J. The Westinghouse Electric Elevator Co. has been dissolved as a corporate entity and activities formerly handled by it will continue as the Elevator and Air Conditioning Divisions of Westinghouse.

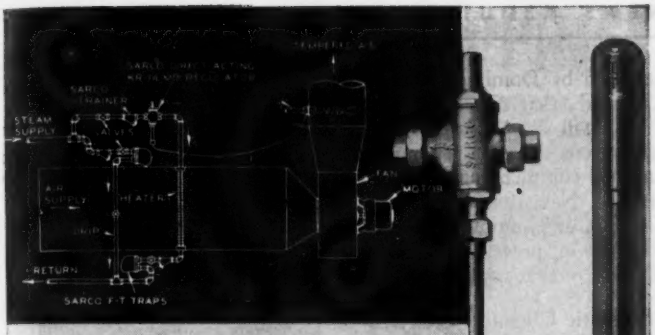
B. F. Goodrich Chemical Co., a division of The B. F. Goodrich Co., has been established with offices and laboratories in Cleveland, Ohio, and manufacturing plants in Ohio, New York, and Kentucky. It will be engaged in the manufacture and sale of the company's Geon vinyl resins, chemicals, and synthetic and reclaimed rubbers. William S. Richardson, with Goodrich since 1926, is president of the chemical company.

Taylor Instrument Cos. of Canada, Ltd., Church St., Toronto, Ont., in the postwar period will erect an addition to their plant to provide a 100% increase in space for manufacture, assembly, and testing of instruments.

Irwin Dyestuff Corp., Ltd., Montreal, Que., was recently

RATINGS FOR STEEL STRAPPING

The use of steel strapping to reinforce shipping containers has been drastically curtailed by the newly-issued WPB order P-152. The WPB Boston regional office has announced that by this order use of AA-1 preference ratings for steel strapping will be limited to baling, bundling, skid-loading, and carloading requirements. Existing preference ratings covering steel strapping for all other uses will become invalid on May 21 and will thereafter bear only AA-5 ratings unless they are rerated in accordance with the provisions of P-152.



SIMPLE TEMPERATURE CONTROL
for
AIR-HEATING OR COOLING

The Sarco KR-14 temperature regulator is a self-operated, liquid expansion type control, packless and easy to install. Used for air conditioning, refrigeration, dryers, ovens, ducts and all types of industrial process work. Temperatures 0° to 400° F., ½ to 8". Ask for Catalog No. 600.

KR-14

SARCO SAVES STEAM

SARCO COMPANY, INC.
475 Fifth Avenue, New York 17, N. Y.
SARCO CANADA, LTD., 85 Richmond St. W., TORONTO, ONT.
172

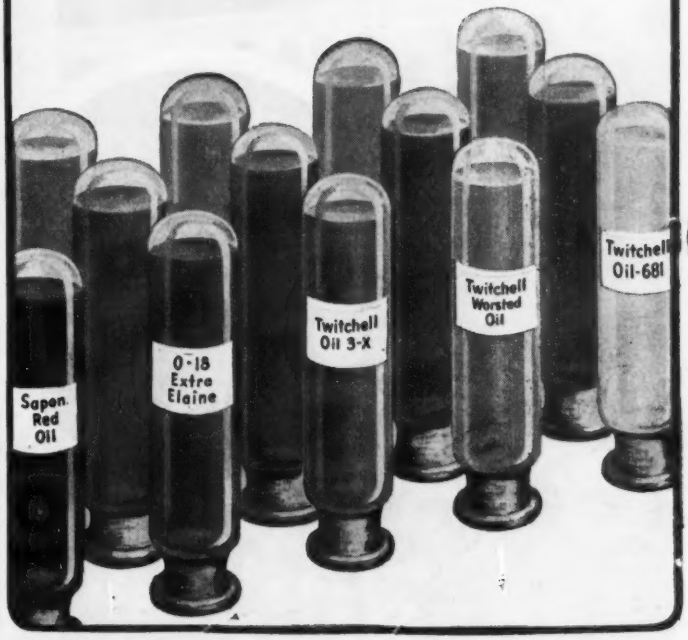
The Fleet Line
OF FINISHING EQUIPMENT

Fulling Mills • Washers — Batch and Continuous • Derby Dry Cleaners • Piece Dye Kettles • Stock Dye Kettles • Carbonizing Ranges • Dye Becks • Rope Soapers • Soaping Machines • Pusher Mills • Soap Distributing Systems • Top Dyeing Machines • Progressive Jigs • Yarn Steamers

RIGGS AND LOMBARD
INCORPORATED
Foot of Suffolk Street — Lowell, Mass.

DON'T ASSUME YOUR TEXTILE OIL REQUIREMENT CAN'T BE MET...

***Write* EMERY!**



Wide Range of Established Products, Tested Under Mill Conditions, to Meet Your Needs

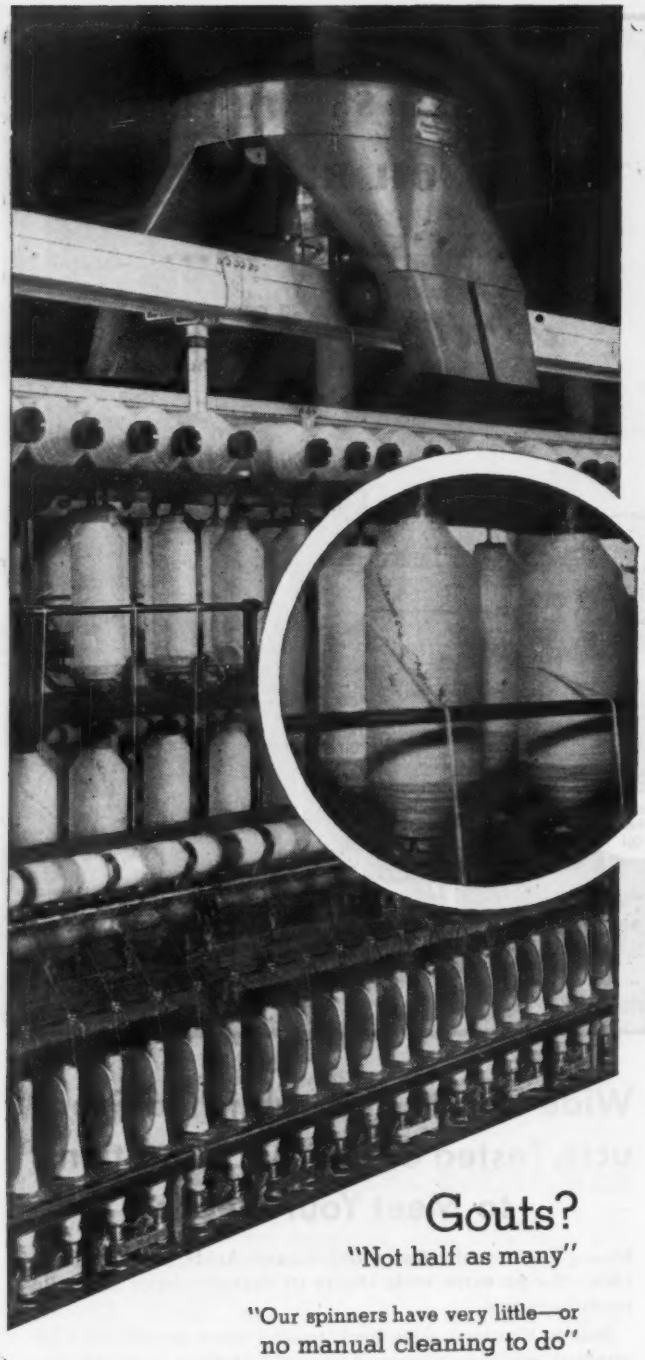
Emery Oleic Acids (Red Oils), Stearic Acids, and Twitchell Oils offer an extra wide choice of characteristics to textile manufacturers.

Emery Products date back to and have grown up with modern textile processes. The commonplace of today was the pioneering of yesterday. Through the years a vast reserve fund of experience has evolved. Taking advantage of this experience may simplify your problem immeasurably.

If the well-known and time-tested Emery products such as Twitchell Wool and Worsted Oils, oils for sanforized and other finishes and rayon oils, will not fill the bill for you, there are many more, some so new that they have not gone beyond laboratory evaluation, yet offering laboratory-controlled quality, stability and uniformity.

A letter or call taps this reserve. Do it today.

EMERY INDUSTRIES, Inc.
TWITCHELL PRODUCTS... PLASTICIZERS
STEARIC ACID • OLEIC ACID • ANIMAL, VEGETABLE AND FISH OIL FATTY ACIDS
CINCINNATI 2, OHIO



Gouts?

"Not half as many"

"Our spinners have very little—or no manual cleaning to do"

"Parks Traveling Cleaners helped greatly. Wouldn't want to be without them"

"After installing your Cleaners in spinning, improvement was noticeable in the weaving. Loom stoppage was reduced 32 per cent.

Outlets in Parks Traveling Cleaners may be adjusted. Air streams may be spotted directly down, or out. Each side may be adjusted independently of the other.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

acquired by Dominion Rubber Co., Ltd., that city. The Irwin Corp. will act as sales outlet for various dyes and chemicals and will complement the activities of Naugatuck Chemicals Division of Dominion Rubber. John Irwin, president of Irwin, remains in that capacity.

Atlantic Chemical Co., Centredale, R. I., has added R. E. Bailey to its sales staff. Mr. Bailey was formerly with Oakes Mfg. Co., Newbert Color Co., and, more recently, sales agent of W. C. Durfee Co.

Mixing Equipment Co., Inc., Rochester, N. Y., has added George R. Mellema to its sales staff. His offices are at 1024 Plymouth Building, Minneapolis 2, Minn.

General Electric Co., Schenectady, N. Y., reports orders received in the first quarter of 1945 amounted to $395,466,000 compared with $391,901,000 for the corresponding period of 1944, an increase of 1%. J. E. N. Hume, commercial vice president of G. E. and manager of the Industrial division, and J. W. Belanger, manager of the Federal and Marine divisions, have been named assistant managers of sales of the Apparatus department.

Calgon, Inc., Pittsburgh, reports that Edward B. Bell, sales and service representative of Calgon, Inc., in the New England textile field, has left the employ of R. L. Williams, Boston agency for Calgon, Inc., to become associated with another Calgon representative, Textile Aniline & Chemical Co., Lawrence, Mass.

WILLIAM H. McCONNELL, who has been named assistant director of sales by Diamond Alkali Co., Pittsburgh, Pa. He was lately vice president of the Benner Chemical Co., Chicago, distributors of Diamond Alkali products.

D. L. FRIDAY, secretary of Cocker Machine & Foundry Co., Gastonia, N. C., who was recently made general manager also, as previously reported.

Farrel-Birmingham Co., Inc., Ansonia and Stonington, Conn., and Buffalo, has appointed Eric C. Gyllensvard as export sales manager, with office at 3700 Chrysler Building, New York.

Stein, Hall & Co., Inc., New York, Oliver H. Clapp a vice-president of Stein, Hall & Co., Inc., has returned from a four months' business trip to Brazil. John Goldstein, treasurer and a director of the company, will retire from active business July 1, after 37 years association with the company.

The Fafnir Bearing Co., New Britain, Conn., has promoted Fayette (Cy) Leister to the position of engineering manager. He joined Fafnir in 1921 and for the last 10 years has been manager of the Detroit territory.

The International Nickel Co., Inc., New York has recently formed the following sections of its Development & Research Division: Industrial Chemicals Section to be headed by O. N. J. Fraser; Corrosion Engineering Section, with F. L. LaQue in charge, and Iron and Non-Ferrous Casting Section, headed by Donald J. Reese.

F. J. Stokes Machine Co., Philadelphia, has appointed Thomas Redmond as Detroit sales representative with offices at 920 Balfour Road, Grosse Pointe Park.

Hercules Powder Co., Wilmington, Del., Naval Stores Department, has opened a new sales office in Atlanta, Ga., in charge of Willis A. Haines.

UNIT-LOAD STRAPPING FOR PALLETS AND SKIDS

Strapped pallet loads of truck wheel rims and springs

A pallet, like a skid, is a platform built to support a number of containers or products which, when strapped together, form a *unit load.*

Pallet loading conserves manpower by reducing the number of units handled—in packing, loading, warehousing, and unloading. Pallet loading conserves container and packaging materials; conserves space—in warehouses, freight cars and ships. Throughout, pallet loading protects against damage.

Acme engineering is cooperating with the Armed Forces in pallet loading, effecting the same economies for war-time shipping as applied in the past to the movement and handling of peace-time production.

ACME STEEL COMPANY

2820 ARCHER AVENUE, CHICAGO 8, ILLINOIS

ACME STEEL CO. CHICAGO

ONE MINUTE TALKS ON

Cleaning Your Heddles Quickly . . . Safely!

Fire menace and obnoxious fumes usually associated with flammable toxic solvents can be avoided when cleaning your heddles, reeds, drop wires and other loom parts.

How? By cleaning with recommended Oakite materials. Used in water solution, they QUICKLY remove spinning oil, dye and gum deposits . . . leave parts smooth, clean, bright, ready for prompt re-use.

Specially-prepared Digest describes 38 other mill-tested Oakite materials and techniques. It sets forth facts that will help you save time, effort and money. It is FREE for the asking. Write for YOUR copy!

OAKITE PRODUCTS, INC.
42 Thames Street, New York 6, N. Y.
Technical Service Representatives Located In All Principal Cities of the United States and Canada

OAKITE *Specialized* **CLEANING**
MATERIALS & METHODS FOR EVERY CLEANING REQUIREMENT

RESULTS —Our Yardstick of Success!

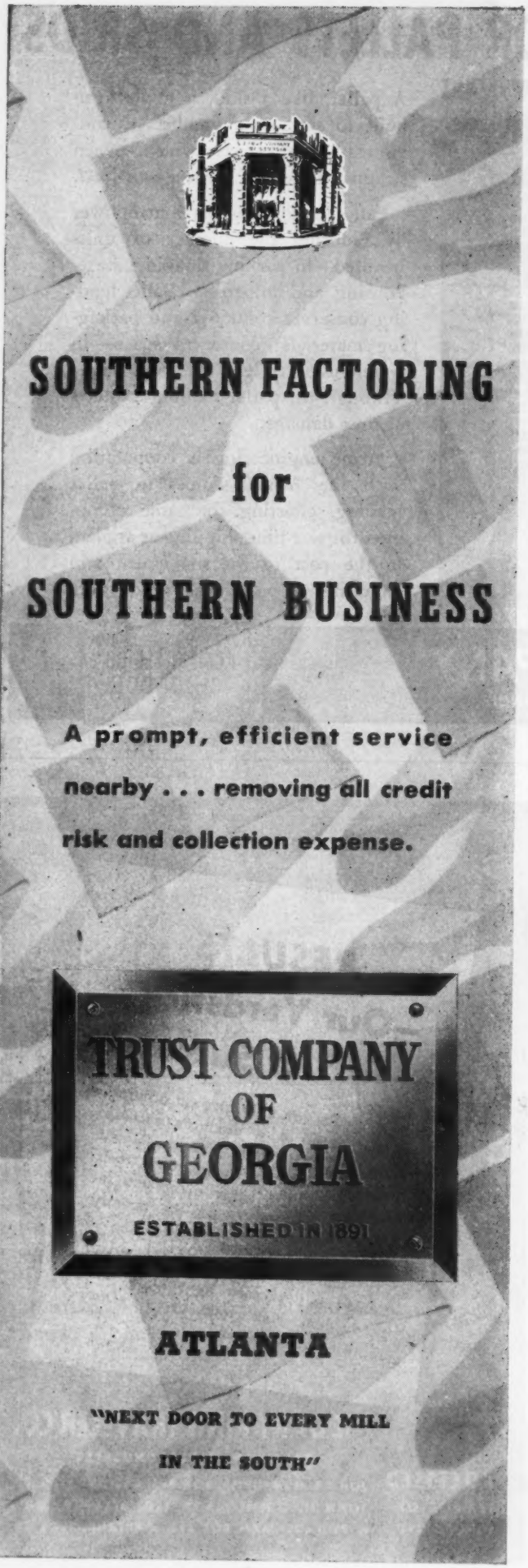
Only results can truly give an accurate measurement of a product's success. Dary Ring Travelers, with a 45-year record of success supporting their manufacture, are today giving top results in spinning rooms the country over.

Try famous Dary Ring travelers NOW! Enlist their success in your present production. Ask your nearest Dary representative to call.

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

PROCESSED
SYMBOL OF SUPERIORITY

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN M. O'NEILL, BOX 728, ATLANTA, GA.
M. REID LOCKMAN, BOX 515, SPARTANBURG, S. C.


SOUTHERN FACTORING
for
SOUTHERN BUSINESS
A prompt, efficient service nearby . . . removing all credit risk and collection expense.
TRUST COMPANY OF GEORGIA
ESTABLISHED IN 1891
ATLANTA
"NEXT DOOR TO EVERY MILL IN THE SOUTH"

NEWS ABOUT Mills

Cotton Mill News

Aldora Mills, Barnesville, Ga., have awarded contract to Frank Binford, Thomaston, Ga., for construction of 52 dwellings for the operatives to cost about $175,000.

American Yarn Corp., Mt. Holly, N. C., has been chartered to establish a coarse thread-yarn production plant at Mt. Holly in the Nims Mill, owned by the American Yarn & Processing Co. This plant has a capitalization of $300,000, and machinery is being obtained under highest priorities. Yarn will be used for military purposes.

American Yarn & Processing Co., Whitnel, N. C., is enlarging its No. 1 Unit to accommodate all the machinery previously housed in the No. 2 Unit, which will be equipped as a woolen plant.

Birmingham, Ala.,—C. D. Lee, president, Shanghai Comcial & Savings Bank; Nelson Chiang, consultant engineer, Shanghai, China; R. L. Liu, textile mill owner, Chungking; and C. S. Miao, Liu mills engineer, have purchased a textile mill in Birmingham, Ala., from Birmingham Cotton Mills, at a price reported at $400,000. The mill will continue to operate under lease by Golding Bros, New York. New company is called Chrysis Corp.

Fulton Bag & Cotton Mills, Atlanta, Ga., have acquired plant of Grimes Co., Denver, Col., and will operate it as a branch plant.

Dallas Mfg. Co., Huntsville, Ala., placed 231 houses in the mill villages on sale to the occupants, ranging from $900 to $2,500.

Gem Yarn Mill,, Cornelius, N. C., was damaged by fire Apr. 9, J. B. Sherrill, Charlotte, N. C., vice president, said production will be cut from 30 to 40% for the next three or four months as a result.

Hamilton Cotton Co., Ltd. Hamilton, Ont., has let contract to Frid Construction Co., Ltd., Hamilton, for a one-story addition, about 180x300 ft. to cost over $250,000, with equipment. Prack & Prack are architects.

William E. Hooper & Sons Co., Baltimore, Md., has plans for one-story addition to Hooperwood Mill, to be used for storage. The project has priority rating and work will begin at once.

J. & J. Spinning Mills, Maiden, N. C., have installed a Parks-Cramer automatic humidifying system, a new Universal winder, an improved heating arrangement and hardwood floors throughout.

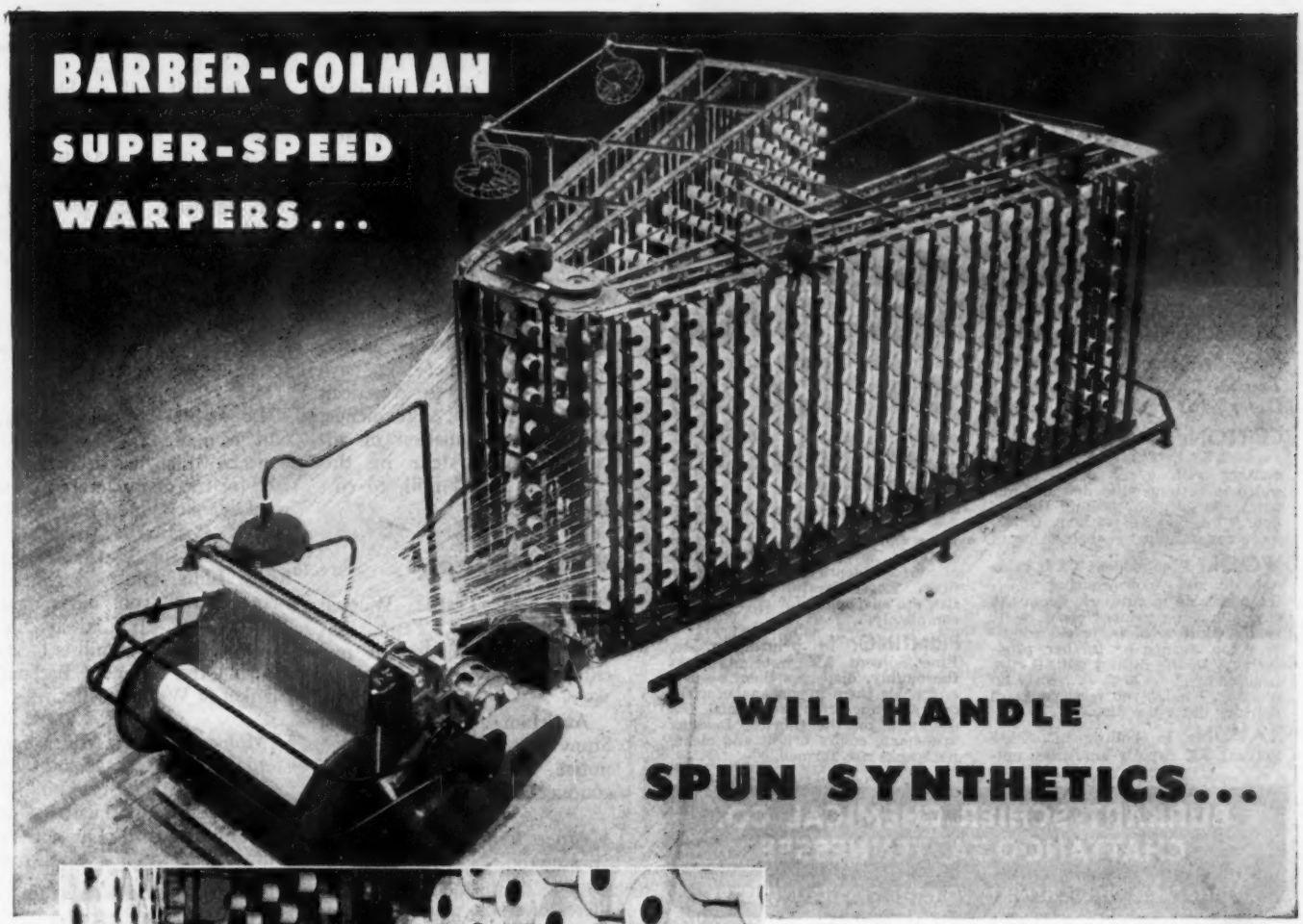
Rowan Cotton Mills, No. 2 unit, Salisbury, N. C., has been sold to the Macanal Mills, Inc. The sale of this unit does not affect the main plant of the company, located on Concord Highway. The No. 2 unit is located on North Shaver Street, and measures 200x400 ft. with 7,296 spindles. The purchasing company is a North Carolina corporation, owned by Max Schiffman, president, and A. L. Madans, secretary.

Russell Mfg Co., Middletown, Conn., has awarded contract to Denis O'Brien & Sons, Inc., Hartford, for a $25,000 addition to its plant on East Main Street.

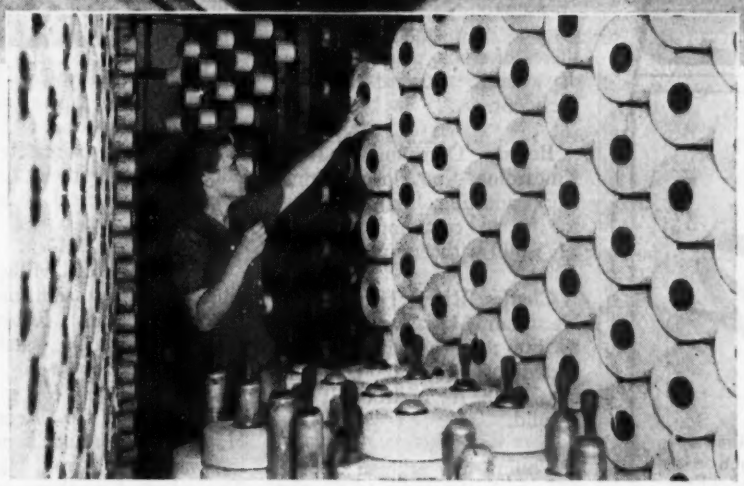
Standard Cotton Products Co., Flint, Mich., sustained a fire loss in the warehouse recently, with an estimated loss of about $16,000. Plans for rebuilding are underway.

United States Rubber Co., New York, reports installation in the four textile mills of the company of 80 new units of machinery to meet increased production schedules for war purposes. Installations will be at Winnsboro, S. C.; Shelbyville, Tenn., and Reid and Stark Mills, Hogansville, Ga. Three high-speed spoolers,

BARBER-COLMAN SUPER-SPEED WARPERS...



WILL HANDLE SPUN SYNTHETICS...



CREELING IS EASY AND RAPID

When creeling spun synthetics on the Barber-Colman Super-Speed Warper, there is no difference in method over present procedure for cotton yarns of similar counts. While one beam is being run from cheeses on the outside of the creel, packages for the next beam are set up on banks of cheese holders on the inside, as shown above. The arrangement may cover stripes or patterns as desired. When the running beam is finished, the loaded banks are traversed to the outside and a new beam is ready to run within approximately 15 minutes after the previous beam has been doffed.

WITHOUT MACHINE ALTERATIONS

Spun synthetic yarns of many types will have wide acceptance in post-war textiles, and forward-looking mill men are now planning on how to handle them. Those mills equipped with Barber-Colman Automatic Spoolers and Super-Speed Warpers will find these machines can package and beam spun synthetics, *even in fine counts,* without any machine alterations. Thus the high efficiency and performance now obtained by owners of Barber-Colman equipment will be fully available for running spun synthetics in the future, and with absolutely no changeover expense or time.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

SCOURING WETTING
PINE-SOLVENT
BLEACHING DYEING

CUT TIME AND COST—IMPROVE RESULTS IN ALL WET PROCESSING WITH BURK-SCHIER PINE SOLVENT XX

Burk-Schier Pine Solvent XX Reduces Surface and Interfacial Tensions . . . Wets, Penetrates, Suspends, Disperses . . . Aids Detergents and Dyes. A Little Does a Lot and Does It Well.

COTTON: In the kier, Pine Solvent XX brings the liquor in contact with every fiber, leaves uniform bottoms that dye and finish more evenly. Boiling time is cut. Fibers are softer, fuller, more resistant to age-discoloration.

WOOL: Pine Solvent XX is valuable in raw-wool scouring . . . irreplaceable in fulling. From the raw stock it produces clean, soft, really white wool in prime condition for storage or further processing. In the fulling mill, it cuts time as much as 30% . . . costs no more . . . helps you meet contract delivery dates on time.

RAYON: In boiling off, Pine Solvent XX rapidly emulsifies gelatinous materials . . . is safe for the most delicate fabrics. Used in dyeing, it makes the fabrics wet out and sink quickly.

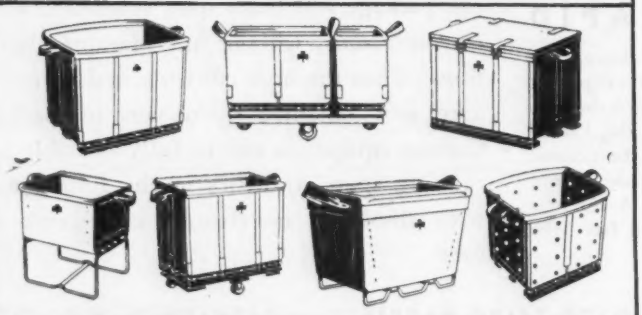
DYEING: Pine Solvent XX makes dye liquor penetrate the hardest fibers and heaviest seams. It gives an even, level deposit of dyestuff of uniform depth throughout every fiber. Loose dyestuff and impurities are suspended for washing out completely.

PRINTING: In printing paste, Pine Solvent XX wets pigments thoroughly, disperses them evenly, and holds them in suspension without agglomeration and until the design is on the fabric. Designs are sharp, colors bright and clear, no specks are formed.

BURKART-SCHIER CHEMICAL CO.
CHATTANOOGA, TENNESSEE
MANUFACTURING CHEMISTS FOR THE TEXTILE INDUSTRY

"Busy Baskets"

Shamrock Baskets are busier than ever these days. Their rugged construction is a source of satisfaction to users everywhere.



Shamrocks

MEESE, INC., Madison, Ind.

three warpers, and 20 long-draft spinning frames are to be added at Shelbyville. At the Hogansville plants, 50 new spinning frames are to be installed. Modern machinery will also be installed in the opening room. New vacuum stripping units will be employed at the four mills on their cards.

Utica & Mohawk Cotton Mills, Inc., Utica, N. Y., have awarded contracts to American Moistening Co., Providence, R. I., for installation of air-conditioning system in the Lonsdale, S. C., mill, to cost about $90,000.

Wool Mill News

American Textile Woolen Co., Sweetwater, Tenn., has completed installation of machinery in several departments.

Antietam Woolen Mills, Stony Creek, Pa., have filed notice of their intention to conduct a textile business.

Ardee Felt Co., 95 Chapel St. Newton, Mass., recently organized with capital of 500 shares of stock, plans operation of a mill. Edward Rose is president.

Botany Dryspinners, Reg., Kincardine, Ont., plan a one-story addition, about 18,000 sq. ft. to cost approximately $175,000 with equipment.

Charles River Textile Co., Needham, Mass., was damaged by fire recently with an estimated loss of $30,000, including 70,000 lb. of wool. It will rebuild.

Collins & Aikman Corp., Norwood, N. C., has asked bids for one-story addition for opener department and warehouse. W. H. Deitrick, Raleigh, N. C., is architect.

L. C. Chase & Co., and Goodall Decorative Fabrics Division, Bridgeport, Conn., have been consolidated and will be known as Goodall Fabrics. The following appointments have been made: Paul E. Carr, general manager; George B. Ogan, consulting agent; Jud E. Williams, sales manager; John J. Dacey, Jr., advertising manager.

Esmond-Virginia Co., Inc., Waynesboro, Va., plans a building expansion program, approved by WPB. When completed it will double production of the plant.

Gibson Woolen Mills, Inc., No. 2 plant, formerly Elm Woolen Mills, Inc. Northfield, N. H. was destroyed by fire with a loss estimated at $100,000.

Harding Carpets Ltd., Brantford, Ont., are preparing for major postwar expansion.

Lone Star Woolen Mills, San Marcos, Tex., is a new concern which has been organized for the manufacture of all-wool blankets and fancy woolens. R. G. Blake, former superintendent of Lima Woolen Mills, Lima, Ohio., is general manager and wool buyer, and Paul Koppe, Jr., is superintendent. The new mill is located in the former Barbour Blanket & Woolen Mills.

Mohawk Carpet Mills, Amsterdam, N. Y., have awarded contract for construction of new boiler house facilities for their Shuttleworth Division to Turner Construction Co., New York.

Nixon Specialty Co., Indian Orchard, Mass., plans a one-story addition about 50x120 ft., to cost approximately $60,000, with equipment. E. P. Dorgan, Springfield, Mass., is architect.

Peerless Woolen Mills, Rossville, Ga., plans additions and alterations, with Robert & Co., Atlanta, Ga., architects and engineers.

R. C. Swan Co., Keene, N. H., recently formed, is producing yarn for Army blankets. The plant has three sets of cards and complementary spindles. Russell C. Swan, treasurer, is also treasurer of Keen Silk Fiber Co.

Wool Combing Corp. of Canada, Ltd., Acton, Ont., is erecting building of about 25,000 sq. ft. floor space. One new scouring line consisting of 5 scouring bowls and a dryer; 10 worsted cards; 24 French type combs and all auxiliary equipment will be installed when machinery is available.

Rayon & Silk Mill News

American Viscose Corp., Wilmington, Del., plans expansion in its branch mill,

Oil Your Machines!
Keep Oil off Yarn and Goods

Most leading mills have standardized on NON-FLUID OIL, the drip-less, waste-less lubricant, made to meet the exacting demands of textile machinery lubrication.

A trial will convince you that NON-FLUID OIL is the best guarantee that your machinery will be properly and economically lubricated—and that loss from oil damage goods will be cut to the bone.

Write for instructive bulletin

New York & New Jersey Lubricant Co.

Main Office: 292 Madison Ave., New York 17, N. Y.
Southern Agent, Falls L. Thomason, Charlotte, N. C.
WAREHOUSES
Chicago, Ill. Providence, R. I. St. Louis, Mo. Detroit, Mich. Atlanta, Ga. Charlotte, N. C. Greenville, S. C.

TRADE MARK REGISTERED
NON-FLUID OIL
(U.S. PAT. OFFICE & FOREIGN COUNTRIES)
MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

New rings are generally a direct boost to production

"To what extent is our machinery running below potential speed because of worn rings?" Mills looking into this question often discover that increased production is simply waiting on the installation of new rings. The net repair expense is usually trifling, compared to the value of the extra poundage.

WHITINSVILLE (MASS.)
SPINNING RING CO.
Makers of Spinning and DIAMOND FINISH *Twister Rings since 1873*

THOS. WOLSTENHOLME CO.
3300 Frankford Avenue, Philadelphia, Pa.

Yarns for All Purposes

French and English Spun Worsted
French Spun Zephyr
French Spun Merino

Representatives:—
Mr. Robert H. Perkins, 99 Chauncey St., Boston 11, Mass.
Mr. C. F. Peffer, The Merchandise Mart, Suite 1076, Chicago 54, Ill.
Mr. Arthur Bone, 4436 Worth St., Los Angeles 33, California

DANA WARP MILLS
Westbrook, Maine

Cotton yarns, single and ply
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps
Seamless grain bags.

THE OLDEST AND LARGEST
MANUFACTURER OF
Ring Spinning and Twister Travelers
In the UNITED STATES

American • Hicks • Wilson
United States Standard
Wentworth Double Duty and Gravity Travelers
MAKE STRONGER YARN
National-Etartnap Finish
A New Chemical Treatment
Write Us
National Ring Traveler Company
354 Pine St., Pawtucket, R. I.
PHILIP C. WENTWORTH, *Treas.*
P. O. Box 1565, Providence, R. I., Charlotte, N. C.

COMMISSION
WINDING WARPING
YARN DYEING
PIECE GOODS DYEING

BLACKSTONE PLUSH MILLS, INC.
CLINTON, MASS.

RED RAY RADIANT HEAT BURNERS SPEED UP DRYING OF THICK FELTED GOODS

A single 119 inch Red-Ray Burner applied to cans for drying inch thick felted material. Drying speed increased 60 per cent.

WRITE FOR COMPLETE DETAILS

RED-RAY MANUFACTURING COMPANY

455 W. 45th STREET — NEW YORK, N. Y.

Southern Representatives:

CAROLINA SPECIALTY COMPANY — CHARLOTTE, N. C.

New England Representative: G. D. YEATON, Hornbine Road, Swansea, Mass.

Canadian Representative: RUDEL MACHINERY CO., LTD., 614 St. James St., W., Montreal, Can.

THE TERRELL CLEANING AND HANDLING SYSTEM

The improved TYPE K stripper: Automatic Bobbin Box Hoist and Conveyor Elevator—a modern, compact system for increasing the efficiency and lowering the cost of bobbin cleaning and handling.

The **Terrell Machine Co.** *Inc.*

CHARLOTTE, N. C.

James F. Notman.....Needham, Mass.—N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J.—Penn., N. J. and N. Y.
W. J. Westaway Co., Ltd.....Hamilton and Montreal, Canada
Geo. Thomas & Co.....Manchester, England.—European Agt.

Meadville, Pa., as a postwar project, with installation of equipment for considerably increased capacity.

Belding Textile Mills, Inc., Belding, Mich., have filed notice of organization to operate in California with capital of 2,000 shares of stock, no par value. California agent is L. H. Myers, 347 Orange St., Redlands, Calif.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has received WPB approval for construction work, including extension to the present storage and service areas, at the Seaford nylon plant. The building additions costing an estimated $200,000 will be constructed by Consolidated Engineering Corp., of Baltimore.

National Ribbon Corp., New York, has purchased a plant at Central Falls, R. I., to be known as Atlantic Ribbon Mills.

Pleasant Novelty Co., Fall River, Mass., recently incorporated with capital of 1,000 shares of stock, no par value, plans operation of local mill for manufacture of rayon specialties. Abraham Wirsch is treasurer.

Tubize Rayon Co., Rome, Ga., has awarded a contract to Daniel Construction Co., Greenville, S. C., for the remodeling of the two-story locker and wash room building at a cost of about $20,000.

Knitting Mill News

Falson Hosiery Mill, a new industrial plant for Burlington, N. C., has started operation under the management of Coy McCuiston, John Keziah and Ralph Overman. The building occupied has a floor space of 5,000 sq. ft.

Bridgewater Textile Corp., has been organized as a subsidiary of Celanese Corp. of America, Inc., New York, N. Y., to construct and operate proposed new warp-knit fabric mill at Bridgewater, Va., where parent company recently acquired tract of land. The project will be a postwar development.

Catalina Knitting Mills, Los Angeles, Calif., has been incorporated with the following directors: Edgar W. Stewart and Elizabeth S. Stewart, Glendale, Calif.; and Louise Bentz, Pasadena, Calif. It is represented by Hahn & Hahn, Pasadena, Calif.

Chadbourn Hosiery Mills, Inc., Burlington, N. C., are transferring their main offices to the newly leased Schoenith building, 2140 South Boulevard, Charlotte, N. C.

J. C. Cloninger, York, S. C., president and general manager of York Mills, Inc., and treasurer and general manager of Neely Cotton Mills, has announced that he will soon establish an underwear plant in Rose Hotel Building, which he recently purchased.

Colonial Maid Mills, Shillington, Pa.—Louis J. Klofach, Philadelphia; M. E. Weil, New York; E. C. Murphy, West Englewood, N. J.; L. B. Kahn and E. F. Frank, New Rochelle, N. Y., have formed this company to manufacture underwear and knit goods.

Grenada Industries, Inc., Grenada, Miss., have discontinued work on a proposed new mill addition, previously reported, on directive from WPB, and the project will be carried out as a postwar development.

Holeproof Hosiery Co., Milwaukee, Wis., plans new branch mill at Quitman, Miss., as a postwar project. Bids will be asked soon.

Hood Knit Co., Vittoria, Ontario, plans one-story addition to cost about $40,000, with equipment.

Julius Kayser & Co., Sherbrooke, Quebec, recently purchased a factory building in Rock Island, Que., which it is now renovating and expects to have ready for occupancy soon. Its use depends upon obtaining the necessary machinery.

Manchester Knitted Fashions, Manchester, N. H., has filed plans for alterations at its plant to include relocation of office facilities. Norris W. Corey, Manchester, is architect. Separate contracts will be awarded by the owners.

O'Shea Mfg. Co., Chicago, Ill., has leased a building at 232 Sycamore St., Greensboro.

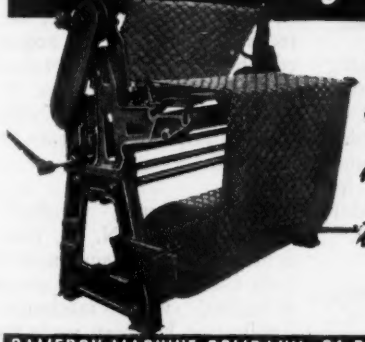
She's delightful and alluring . . . and she's as wise as she is lovely. With a practiced eye for beauty, she nevertheless wants *more* than eye-appeal in all her frocks and finery. That's why Fibres and Fabrics *DuraBeau* Finished are the ones on which she is "sold." Soft to the hand and a joy to the eye, they have the qualities of wear and durability demanded by Miss Springtime, 1945.

DuraBeau
Reg. U.S.A. and Canada FINISHES

SCHOLLER BROS. INC.

Mfrs. of Textile Soaps, Softeners, Oils, Finishes
Collins & Westmoreland Sts., Phila. 34, Pa.
St. Catharines, Ont., Can.

Slitter for quilting



for inspecting winding, trimming and slitting of quilting materials

CAMERON MACHINE COMPANY - 61 POPLAR ST. BROOKLYN 2, N. Y.
Midwest Office: 111 W. Monroe Street, Chicago 3, Ill.

DAVIS AND FURBER

Earn a Manufacturing Profit By Using the Best Machinery and Supplies

DUSTERS
PICKERS
CARDS
MULES
WOOLEN SPINNING FRAMES
SPOOLERS
DRESSING FRAMES
NAPPERS
CARD CLOTHING
NAPPER CLOTHING
GARNETT WIRE
LEATHER RUB APRONS
LEATHER CONDENSER TAPES

DAVIS & FURBER
NORTH ANDOVER, MASS.

THE ACCEPTED STANDARD

When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Director of Circulation,
TEXTILE WORLD,
330 West 42nd St., New York, 18, N. Y.

Please change the address of my Textile World subscription.

Name .....
Old Address .....
New Address .....
New Company Connection .....
New Title or Position .....

WHITMAN YARNS

WORSTED · COTTON · SPUN RAYON

WHITMAN SERVICE
1852-1944

During 92 years The William Whitman Company, Inc., and its predecessors have served the interests of important mills and users of yarns, seeking to establish for its customers a steady flow of dependable, quality yarns.

ARLINGTON MILLS
LAWRENCE, MASS.

Bradford Spun Worsted Yarns, Natural and Slub-dyed Colors and Mixes.

MONOMAC SPINNING CO.
LAWRENCE, MASS.

French-spun Worsted and Merino Yarns. Specialty Yarns—Rabbits Hair, Rayon, Acetate and Other Blend Yarns.

NONQUITT MILLS
NEW BEDFORD, MASS.

Cotton and Spun Rayon Yarns, Merino Blends, Specialty Rayon and Wool Mixtures.

WILLIAM WHITMAN COMPANY, INC.
SELLING AGENTS

BOSTON, 79 Chauncy St. — NEW YORK, 261 Fifth Ave.
PHILADELPHIA, 1600 Arch St. — CHARLOTTE, Commercial Bank Bldg.

N. C., and will improve and equip it for a new branch knitting mill.

Real Silk Hosiery Mills, Indianapolis, Ind., plan an expansion program, with additional equipment and facilities for increased capacity.

Troxier Hosiery Mending Co., Greensboro, N. C., has purchased a lot with a six-room dwelling, to utilize as a hosiery plant as soon as conditions permit.

Warner Hosiery Mills, Durham, N. C., have been incorporated to manufacture hosiery with capital of $100,000, of which $1,200 has been subscribed by Harman E. Crawford of Kernersville, N. C., and Fay N. Heilig and Catharine B. Graham, of Winston-Salem, N. C.

The Womelsdorf Mfg. Co., Womelsdorf, Pa., has filed a certificate of registration to manufacture knit goods.

Woodside Knitting Co. Ltd., with head office in Toronto, Ont., was recently incorporated with capital of $40,000.

Processing Plant News

North Georgia Processing Co., Inc., Toccoa, Ga., subsidiary of Clark Thread Co., Newark, N. J., has awarded contract to Adams Construction Co., Atlanta, Ga., for construction of a plant addition, to include 3,000 sq. ft.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., plans a $625,000 expansion program, including construction of a rayon building, four new warehouses, completion of twelve large warehouses, and possible addition of a conveyor to move heavy goods. The program will provide an additional 517 jobs, and will increase the payroll by $1,000,000.

Textileather Corp., Toledo, Ohio, has plans for addition to boiler plant, reported to cost over $20,000, with equipment. Froehlich & Emery Engineering Co., Toledo, is consulting engineer.

United Piece Dye Works, New York, has purchased the plant of California Sanitary Canning Co. on Long Beach Ave., Los. Angeles, Calif., and will convert it into a textile finishing plant. The New York concern will take possession in June.

U. S. Finishing Co., Norwich, Conn., has let contract to Associated Construction Co., Groton, Conn., for one-story addition, including improvements to cost about $50,000.

York Unshrinkable Wools Ltd., Toronto, Ont., a subsidiary of York Knitting Mills Ltd., equipped for rendering wool goods unshrinkable, is now in production.

Miscellaneous Mill News

Caldwell Linen Mills, Ltd., Iroquois, Ont., plan a one-story addition, 20x100 ft., reported to cost approximately $40,000, with equipment.

Carpenter Mfg. Co., Norwich, Conn., has been purchased by Sam and Martin Chase, Providence, R. I., who will continue the production of tinsel cord and other specialties.

Double Woven Corp. of America, Inc., Dunmore, Pa., recently chartered, has acquired former local Sherwood Mill, a two-story structure, for a reported sum of $27,500, and will improve and equip for new mill.

Florida Ramie Products, Inc., New York, N. Y., plans a new fiber processing mill at Belle Glade, Fla., to cost about $250,000, with machinery. Application has been made for priority rating. W. G. Waldo is company engineer; C. B. Schoeppl, Miami, Fla., is associate architect.

Miles Linen Co., Salem, Ore., has awarded general contract to The Austin Co., Seattle, Wash., for one-story addition, reported to cost over $40,000, with equipment.

The Virginia Braid Co., Charlottesville, Va., has been purchased by Coventry Co., Coventry, R. I., of which J. M. Brogden is president and treasurer. The firm name has been changed to Virginia Textiles, Inc., with H. J. Balchat as president and general manager, and J. M. Brogden as tresasurer.

Let LANITOL Do it

Reg. U.S. Pat. Off.

SUPERIOR SYNTHETIC DETERGENT

A highly efficient product for use in scouring and boiling off all textile fibres. Active in hard or soft water it may be used alone in the bath or in conjunction with soaps or alkalies with amazing results.

- Let LANITOL increase the detergent action of your soap and achieve cleaner stock, yarn or cloth through its rapid and complete rinsing properties.
- Let LANITOL improve the boiling off, processing and dyeing of rayon hose in one or two bath methods. A better finish and uniform shade is easily accomplished.
- Let LANITOL prove its value for washing off worsted tops and yarn to remove all oil and grease.
- Let LANITOL demonstrate its ability to thoroughly scour rayon and woolen cloth and effectively remove all residual soap, dirt, etc. in the rinse, leaving the cloth with a pleasing hand and free from objectionable odors.
- Let LANITOL raise the efficiency of your fulling operation—a small addition to the soap liquor increases its penetration and activity when applied to the cloth in the mill and accelerates the fulling action.

Sample or demonstration furnished on request.

ARKANSAS CO., INC.

Newark, New Jersey

Manufacturers of Industrial Chemicals for over 40 Years

true blue

★★★★★★

traditional color of the fleet that'll give postwar fashions a treat ★★★★★

Today, as since the days of John Paul Jones, *true blue* Navy Blue is the official color of naval uniforms. Tomorrow, the classic smartness of this perennial color favorite will give postwar fashions the added elegance of improved color fastness and uniformity.

Basic in the preparation of *true blue* Azo dyes is SOLVAY SODIUM NITRITE that helps give Navy Blue greater color fastness and intensity. Of U. S. P. quality, its pure and free-flowing crystals are especially suited for the manufacture of dyes and dyeing.

For *the* color that'll give postwar fashions a treat—specify SOLVAY SODIUM NITRITE for *true blue* Navy Blue dyes and dyeing.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 RECTOR STREET NEW YORK 6, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati
Cleveland • Detroit • New Orleans • New York
Philadelphia • Pittsburgh • St. Louis • Syracuse

SOLVAY
SODIUM NITRITE

NEWS ABOUT *Men*

Thomas D. Russell, Montgomery, Ala., has been elected president of Russell Mfg. Co. He has been with the firm 20 years, and acted as vice president and general buyer.

A. B. Shaft was elected president of Minneapolis Knitting Works on a program of management rotation under which he will retain office for one year, and be succeeded by one of the two vice presidents. The rotation plan was adopted at a recent annual board meeting, at which time **Tom E. Kendall** and **E. L. Thomas** were reelected vice presidents.

R. S. Dempsey has joined Raycrest Mills, Inc., as vice president, and will be in charge of general management in the New York office.

H. M. Kaiser has been made executive vice president of the May-McEwen-Kaiser Co., Burlington, N. C.

C. M. McLeod, for eight years president of Consolidated Textile Co., with plants at Shelby, N. C., and Lynchburg, Va., has become supervisor of merchandising and sales managership for Iselin-Jefferson Co., New York. **W. S. Spatcher** is the newly elected president of Consolidated.

E. N. Brower, secretary-treasurer of Rockfish Mills, Hope Mills, N. C., has been named president of the Carded Yarn Association by its executive committee, effective May 1. He will fill the unexpired term of **Charles S. Northen**, Jr., who resigned recently to accept a position with the Sloss-Sheffield Steel & Iron Co. of Birmingham, Ala. Mr. Northen has resigned as vice president of Avondale Mills.

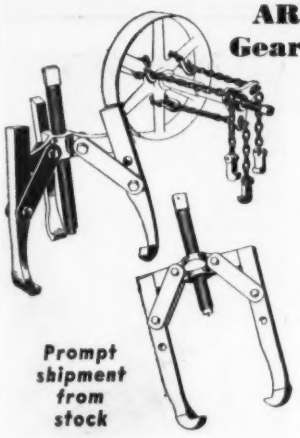
JAMES H. McGRAW, JR., president of McGraw-Hill Publishing Co., was presented the degree of Doctor of Engineering by Rensselaer Polytechnic Institute, Apr. 27. In making the presentation, the Institute praised Mr. McGraw as "a great editor and businessman, who has fashioned an institution with powerful educational influence, particularly in the fields of science and engineering. He has constantly maintained that social engineering should keep pace with our technological progress."

RICHARD T. SCOTT, who has been elected president of the Durene Association of America. Mr. Scott was secretary of the Mercerizers Association of America in 1943-44, serving previously with Montgomery Ward & Co., Chicago. Other officers of the Durene Association for 1945 are W. H. Suttenfield, American Yarn & Processing Co., vice president; J. P. Holt, Abertoyle Mfg. Co., treasurer; G. W. Herrick, Jr., Abertoyle, assistant treasurer; and A. C. L. Newsom, Lockhart International, Inc., secretary.

J. Frank Morrissey, treasurer of Interlaken Mills, Fiskeville, R. I., has been elected president of Rhode Island Textile Association, succeeding **J. Colby Lewis**, vice president and general manager of J. & P. Coats, Pawtucket. **J. H. Farrell** is first vice president. **Kenneth B. Cook**, second vice president, and **Edward F. Walker**, secretary treasurer.

Harold C. Zulauf, for the last 12 years general superintendent of Alexander Smith & Sons Carpet Co., Yonkers, N. Y., has been appointed vice president in charge of industrial relations by Smith's board of directors. **Thomas Appleyard**, assistant general super-

ARMSTRONG - BRAY
Gear and Wheel Pullers



Essential Tools Today

because they save hours of time, prevent costly breakage and long shut downs.

CHAINGRIP Universal Pullers pull wheels, solid gears, pinions, etc., even at considerable distance from end of shaft. Proof-tested chains have both chain hooks and special pulley hooks. 3-ton and 12-ton capacities.

STEELGRIP Standard Rigid Arm Gear and Wheel Pullers are of improved design. Will not slip from work. Arms are forged and heat-treated. 2-arm, 3-arm and special models. 12 types and sizes.

Prompt shipment from stock

Write for Catalog Sheets.

ARMSTRONG-BRAY & CO.
"The Belt Lacing People"
5340 Northwest Highway Chicago 30, U.S.A.

STYLE 28
ROVING TRUCK

LANE
CANVAS
TRUCKS

For the well equipped mill

W. T. LANE & BROS., Inc.
Manufacturers, Poughkeepsie, N. Y.

NEW BEDFORD, MASS. ALLEN COMPANY.

THE *Right Beam* FOR *Any Yarn*

130-156 River Road, New Bedford, Mass.
So. Rep. L. E. Wooten, Fort Mill, So. Car.

WE'VE LEARNED A LOT IN OUR 50 YEARS

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes. *Catalog on request.*

W. E. CALDWELL CO.
INCORPORATED
2060 Brook St. Louisville, Ky.

Caldwell TANKS AND TOWERS

for Results

USE **Mc GRAW-HILL** DIRECT MAIL LIST SERVICE

MAILING LISTS THAT WORK...

McGraw-Hill Industrial Mailing Lists are a direct route to today's purchase-controlling executives and technicians in practically every major industry.

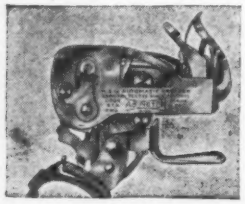
These names are of particular value now when most manufacturers are experiencing constantly increasing difficulty in maintaining their own lists.

Probably no other organization is as well equipped as McGraw-Hill to solve the complicated problem of list maintenance during this period of unparalleled changes in industrial personnel. These lists are compiled from exclusive sources, based on hundreds of thousands of mail questionnaires and the reports of a nation-wide field staff, and are maintained on a twenty-four hour basis.

Investigate their tremendous possibilities in relation to your own product or service. Your specifications are our guide in recommending the particular McGraw-Hill lists that best cover your market. When planning your industrial advertising and sales promotional activities, ask for more facts or, better still, write today. No obligation, of course.

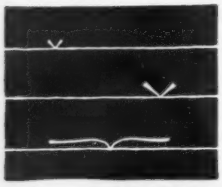
McGraw-Hill Publishing Co., Inc.
DIRECT MAIL DIVISION
330 West 42nd Street New York, 18, N. Y.

"You need it now more than ever!"



ABINGTON WEAVER'S KNOTTER

This automatic knotter ties perfect weaver's knots even in relatively unskilled hands. Automatically scissor clips the tails with consistent uniformity to any setting from 5/8" down to minus 1/16". Knots are positively non-slip, and so compact as to be acceptable in thread and coated fabric yarns.



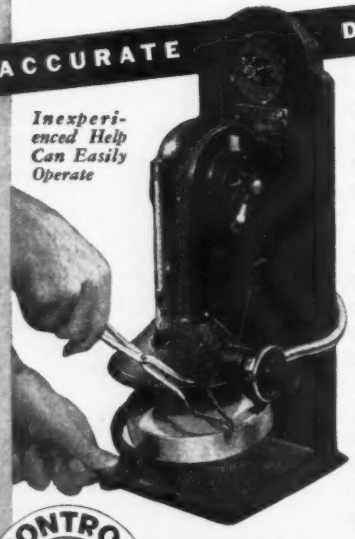
REQUEST KNOTTER CATALOG

ABINGTON

ABINGTON TEXTILE MCHY. WKS., ABINGTON, MASS.
Vacuum Card Strippers – Yarn Dyeing Systems – Weaver's Knotters
OFFICES AT BOSTON, MASS. • CHARLOTTE, N. C.

Determine Moisture Content Within a FEW MINUTES

ACCURATE DEPENDABLE



Inexperienced Help Can Easily Operate

For testing raw stock, cotton, wool, silk, rayon, yard goods, etc.

The *Moisture Teller* is an inexpensive moisture tester. It assures savings in processing time, reduces rejections and improves product quality. Successfully used by many industries.

CONTROL EQUIPMENT SAVES TIME

Harry W. Dietert Co.
9330 ROSELAWN • • DETROIT 4, MICH.

intendent, has been promoted to general superintendent.

H. J. Briggs and **William C. Rychman** have been elected vice presidents of the Lane Cotton Mills, New Orleans, La. **J. D. Rumph** has been elected treasurer, and **L. J. Lob**, secretary.

C. A. Meister, Jr., has taken over Black River Mills, Ludlow, Vt., and assumed presidency of the company, which has been renamed Ludlow Woolen Mills, Inc. **Maurice J. Kraft** has been elected treasurer.

Burton F. Mitchell is now assistant vice president and general manager of manufacturing at American Yarn & Processing Co., Mount Holly, N. C. He was promoted from superintendent of mercerizing.

Thomas W. Oliver, Jr., chief of the Worsted Piece Goods Unit of WPB's Textile Bureau, has been named acting chief of the wool branch of the bureau to succeed **Martin H. Horchler.** An executive of the Uxbridge Worsted Co., Inc., Uxbridge, Mass., he was manager of the planning department before joining WPB in February.

Jack H. Riley, vice president of Turner Halsey Co., has been transferred from Chicago to the New York office of the company. He will continued in charge of the Chicago branch, and will be associated with **M. H. Miller** in handling work clothing trade.

J. J. McHardy was elected director and vice president of Mercury Mill, Ltd., Hamilton, Ont., recently. **A. G. Howey** was elected secretary and treasurer.

W. E. Clark, who has been production assistant to **H. Gordon Smith,** general manager of the textile division of United States Rubber Co., Hogansville, Ga., has been promoted to assistant general manager of that branch. He has been with the company since May, 1931.

W. P. Walker recently was appointed general manager of York Knitting Mills, Ltd., Toronto, Ont. A director since 1941 and more recently vice president, he joined the firm ten years ago and became assistant comptroller and later

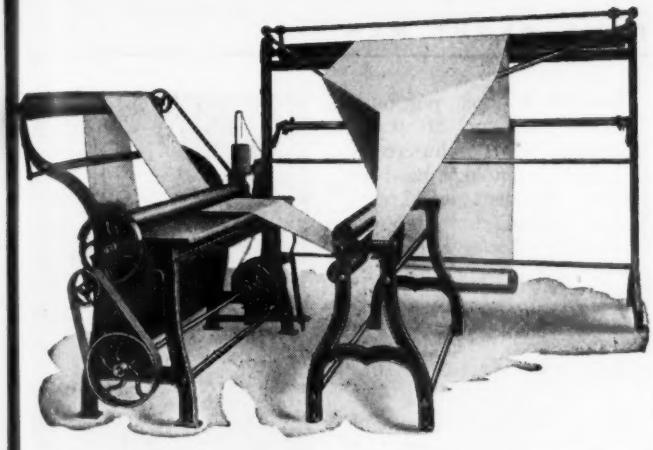
DR. C. L. MANTELL, technical director of United Merchants & Manufacturers Management Corp., who has been made vice-president of United Merchants Laboratories, Inc., whose chemical and textile research laboratories, engineering department, and patent section serve all the weaving, finishing, converting, merchandizing, manufacturing, and foreign units of United Merchants & Manufacturers, Inc.

comptroller. He recently retired from the duties of deputy administrator of the wool section of the Wartime Prices & Trade Board.

R. Mayne Bundy, High Point, N. C., has been appointed to head the hosiery, clothing, knit goods, and equipment division of WPB, succeeding **Hugh M. Grey** of Grey Hosiery Co., Concord, N. C., who held the place for 13 months. Mr. Grey will continue to serve as consultant on women's hosiery problems.

John Middlemiss, of Robert Reis & Co., has been made chief, Knit Goods Branch, Clothing and Equipage Division, WPB. He succeeds **R. Y. Cooper,** who has resigned to return to his duties as president of Cooper's, Inc.

R. C. Harrington, U. S. Rubber Co., has been promoted to technical director in charge of development, engineering, quality control, purchasing, and technical contacts with the trade. A graduate of Clemson College, Clemson, S. C., he joined the company in 1928, was promoted to technical superintendent of the Winnsboro, S. C., plant in 1933 and transferred to the general manager's office at Hogansville, Ga., as technical assistant to the general manager in 1938. He was promoted to assistant to the general manager in 1941.



No. 27—IMPROVED DOUBLING AND TACKING MACHINE

Sewing any length stitch up to 1¼ in., making a firm, strong stitch for any weight or width of goods. This machine is equipped with our latest oscillating needle bar sewing head, which makes it the fastest tacking machine on the market for tacking the selvages of woolen and worsted fabrics. For further information, send for our catalog.

DINSMORE MFG. CO.

SALEM, MASS.

Machine and Hand Knitting

Yarns

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

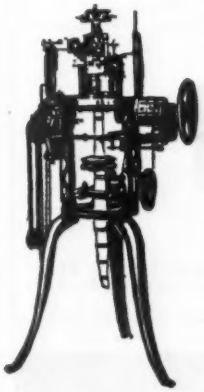
★

Complete color assortments

American Woolen Company

225 Fourth Avenue New York

Now's THE TIME FOR PLANNING



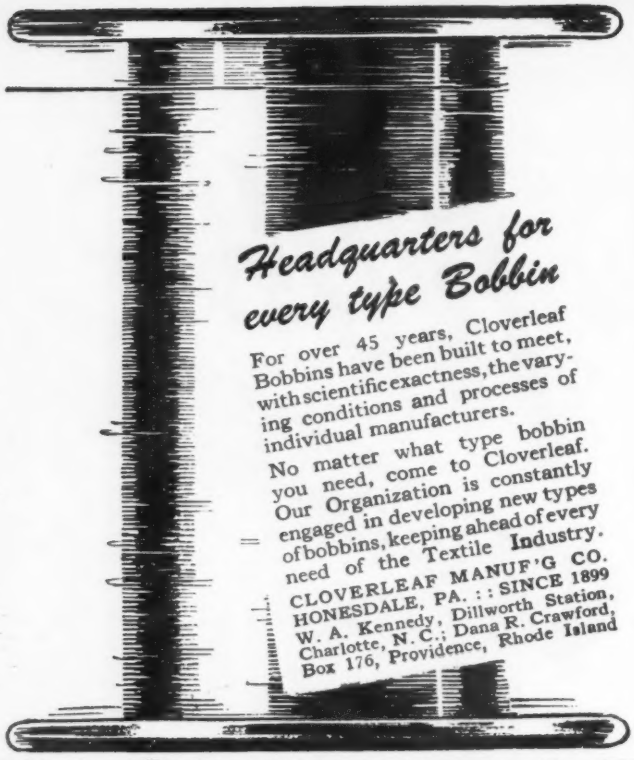
Do your planning now. After the peace—is too late: Your competition is ready to fight you for your markets. Don't let them get the jump on you—because your plans aren't definite, and well advised.

BRINTON'S technical department is ready. Take advantage of its new ideas — improvements — methods — and economies. Consult BRINTON regarding your plans. Get expert counsel NOW — on your Knitting Machinery needs.

H. BRINTON CO.

3700 KENSINGTON AVE.

PHILADELPHIA 24, PA.


Headquarters for
every type Bobbin
For over 45 years, Cloverleaf Bobbins have been built to meet, with scientific exactness, the varying conditions and processes of individual manufacturers.
No matter what type bobbin you need, come to Cloverleaf. Our Organization is constantly engaged in developing new types of bobbins, keeping ahead of every need of the Textile Industry.
CLOVERLEAF MANUF'G CO.
HONESDALE, PA. : : SINCE 1899
W. A. Kennedy, Dillworth Station, Charlotte, N. C.; Dana R. Crawford, Box 176, Providence, Rhode Island

CLOVERLEAF
Bobbins . . . . . .

New type cone drive spindle and bobbin available at end of war.

Scott Testers offer sure control

Use world-standard *Scott Testers at your essential Control Points of research, purchasing, manufacture and final inspection. Our 60 models fill requirements from single hair to 1 ton for tensile, hysteresis, twist, burst, flexing, crepeage, etc., etc.

SCOTT TESTERS

*Registered Trademark

SCOTT TESTERS, INC. 95 Blackstone St. Providence, R. I.

CHAPMAN
STATIC
NEUTRALIZER

Reduces waste and Stabilizes the production rate in many operations

USED ON

CARDS - CONDENSERS - DRAWING FRAMES
SLASHERS-WARPERS-GARNETTS-FOLDERS-DRYERS
NAPPERS - SHEARS AND MANY OTHER MACHINES

CHAPMAN ELECTRIC NEUTRALIZER CO.
BOX 268, PORTLAND, MAINE

NEWS ABOUT MEN

Kenneth R. Fox, previously assistant professor of textile technology at Massachusetts Institute of Technology, has been elected president of Lowell Textile Institute, Lowell, Mass., succeeding **Charles H. Eames,** for 41 years head of that institution who has reached the compulsory retirement age of 70. Mr. Fox, a graduate of M.I.T., is 29 years old.

Dr. Lewis Larrick, a research physicist at the laboratories of The B. F. Goodrich Co., Akron, Ohio, since 1932, has resigned to become textile technologist on the staff of the Institute of Textile Technology, Charlottesville, Va.

Nettleton P. Murphy, Greensboro, N. C., representative of the Oscar Heineman Corp., since 1928, has become representative of the commission throwing division of Duplan Corp., New York, in North and South Carolina and part of Virginia.

Max W. Sullivan has been elected dean of Rhode Island School of Design, succeeding **John E. Alcott,** head of the advertising and industrial design department, who has been serving as acting dean since **Dana P. Vaughan** resigned to become director of the Trenton, N. J., School of Industrial Arts in 1943.

Amos C. Johnstone, formerly associated with Textiles, Inc., Gastonia, N. C., has been named general manager of P. H. Hanes Knitting Co. plant, Winston-Salem, N. C.

David E. Arthur, associated with Pacific Mills, Lawrence, Mass., since 1927, has been named manager of Carrboro Woolen Mills, Carrboro, N. C., which expects to begin operations around May 1, manufacturing 18-oz. Army serge, flannel shirting, and tropical worsted uniform cloth.

S. Funderburk has been made office manager for Pomona Mfg. Co., Greensboro, N. C. He was formerly with Cannon Mills, Kannapolis.

R. G. Blake, former superintendent of Lima Woolen Mills, Lima, Ohio, is now general manager and wool buyer for Lone Star Woolen Mills, San Marcos, Texas; and **Paul Koppe, Jr.,** is superintendent. This mill was formerly Barbour Blanket & Woolen Mills, Inc. Additional equipment will be added.

LEWIS F. SAWYER, who has been named director of the newly-created division of industrial accounting organized by the Cotton-Textile Institute, as reported in these columns last month.

A. L. Stringer was recently appointed manager of Sheer-Silk Hosiery Mills, Ltd., Sherbrooke, Quebec. He was formerly manager of the full-fashioned hosiery division of Mercury Mills, Ltd., Hamilton, Ont.

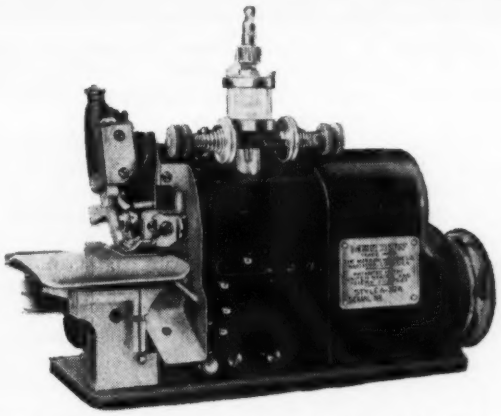
T. B. Reynolds, former superintendent of Selma Cotton Mills, Selma, N. C., and **U. N. Rogers,** former carding overseer there, have accepted similar positions at Tifton Cotton Mills, Tifton, Ga.

J. R. Pruett, former assistant manager of Cascade Rayon Mills, Mooresville, N. C., unit of the Burlington Mills Corp., has been transferred to a similar position at the Newton, N. C., plant.

R. L. Yates has become mechanical research engineer for Proximity Mfg. Co., Greensboro, N. C.

Duncan M. Liles, former plant superintendent of Gloria Rayon Mills, Johnson City, Tenn., has joined the staff of the foreign department of Burlington Mills, Greensboro, N. C., in a manufacturing capacity. **Frank Kelly,** weaving overseer at the Gloria plant, has been promoted to superintendent.

Sherman R. Basinger has been promoted to superintendent of White Oak Cotton



Merrow Class A Machines, illustrated, have made possible quality production, high speed and low operating costs to a degree greater than ever before. They are easy to handle, simple to adjust, sturdy in design, accurate in workmanship and readily adapted to many kinds of work. Let us or our distributor nearest you demonstrate the work of these machines on samples of your own fabric.

MERROW HIGH SPEED

OVEREDGING, OVERSEAMING AND HEMMING MACHINES

Produces Federal Specification Stitch
Types 501, 502, 503, 504 and 505

WAR WORK DEMANDS

Quality Results—High Production
Convenient Handling
Minimum Time-Out for Adjustment
or Repair—Low Upkeep Costs

Obtain Maximum Quality Production by Using a Machine Suitably Arranged for Your Work — Our Distributors or Our Direct Representatives Are on Call to Advise You Suitable Machine Arrangements for Various War Work and Proper Care and Operation of Machine.

ESTABLISHED 1838 INCORPORATED 1894

THE MERROW MACHINE COMPANY
STARTING ITS SECOND CENTURY

2803 LAUREL STREET **HARTFORD 6, CONN., U. S. A.**

Acme Products

for seamless hosiery knitting

Speak for Themselves

Up-To-Date Machines
Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.
FRANKLIN, N. H.

CRANE

KNITTING MACHINES

meet the need for Speed—
for Quality and Low Cost

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

Let us tell you why —and how . . . just **WRITE**

1870 **CRANE** 1944.

MANUFACTURING CO.
LAKEPORT, N. H.

Spring Latch Needle
KNITTING MACHINERY

3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

INDUSTRIAL ENGINEERS

Specializing in

TEXTILES FOR MORE THAN
A QUARTER OF A CENTURY

RALPH E. LOPER CO.

COST SYSTEMS WORK LOAD STUDIES
PAY ROLL CONTROLS
COST REDUCTION SURVEYS SPECIAL REPORTS

GREENVILLE, S.C. FALL RIVER, MASS.

"YOU CAN COUNT ON WAK COUNTERS"

They are

RUGGED
ACCURATE
DEPENDABLE

We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.

Write — Phone — Wire

WAK INDUSTRIES
CHARLOTTE, N. C.

Mills, Greensboro, N. C., to succeed **R. H. Armfield,** who has retired after 45 years with the mills. **R. C. Hunneycutt** has been made assistant superintendent on the first shift, and **Carl A. Pegram** on the second shift at White Oak. **R. L. Yates** is research engineer for Proximity Mfg. Co.

Edward S. Cobb has become assistant to **Herbert Gregson,** in charge of the spinning divisions of Sidney Blumenthal & Co., Inc., at Valley Falls and Woonsocket, R. I. Mr. Cobb was formerly purchasing agent.

J. N. Bouffard has been made superintendent at Slater Spinning Co., Pawtucket, R. I. He was formerly yarn superintendent at Northboro Woolen Co., Northboro, Mass.

Edmund Keuhnel, former overseer at Pittsfield Mills, Pittsfield, N. H., has accepted a similar position in New York.

Marvin Meredith has been appointed weaving superintendent of Equinox Mill, Anderson, S. C., succeeding the late John M. McAlister. He was promoted from assistant.

Joe Shirley has become carding superintendent, Norris Cotton Mills Co., Cateechee, S. C. He was formerly assistant in the same department at Piedmont Mfg. Co., Piedmont, S. C.

Men in Armed Services

Joseph B. Pope, formerly chief of the equipage section of the Office of the Quartermaster General, has, at his own request returned to inactive status. He plans to become an executive specialist in textile materials and finished products. A lieutenant colonel, he was formerly assigned by Charles A. Cannon, president of Cannon Mills, to Ewing-Thomas Corp., as controller.

William A. Peterson, lieutenant colonel, has been named executive officer of the Procurement Division of the QM Depot, succeeding **Col. Herman C. Kliber,** recently made director of procurement. He had been officer in charge of Miscellaneous Purchase Section of the Buying & Production Branch.

Harvey Radus, on leave from Ribbon Narrow Fabric Co., Inc., and captain in the Army, has been appointed adjutant general of the Chinese Training Center, which is in charge of schools set up to train Chinese officers and enlisted men in modern warfare.

William J. Calvert, colonel and commanding officer of the Boston Quartermaster Depot, retired to private life recently after completing 38 years of service with the Army. He is succeeded by **Col. Bernard J. Finan,** QMC, who has served 27 months overseas.

Kenneth Phillip Brown, former textile manufacturer, has

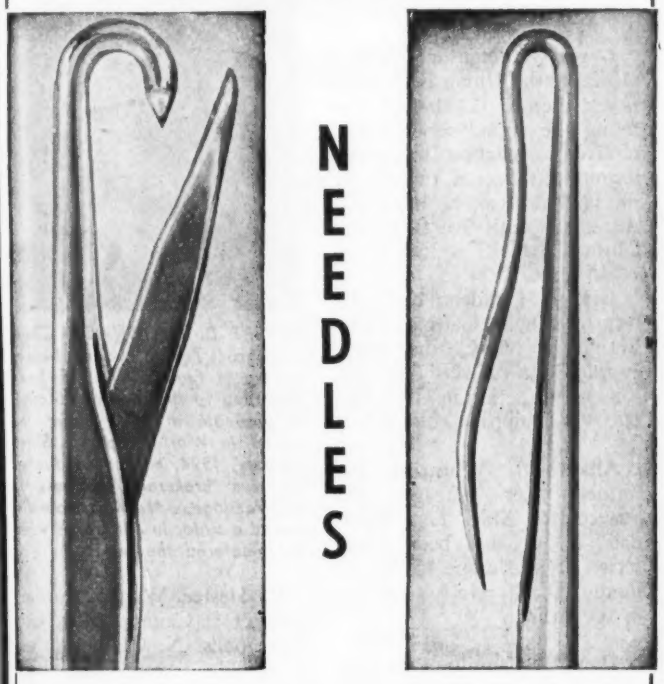
J. EBERT BUTTERWORTH, vice president of H. W. Butterworth & Sons Co., Philadelphia, Pa., who has been given an award by the British Government in recognition of his work on the AMG Board in Italy, where he is serving as a colonel in the United States Army. He is believed to be the first American officer in the Mediterranean Theater to receive this award.

been promoted to captain. He is on duty with the Research & Development Branch of the Military Planning Division of the Office of the Quartermaster General, with textile allocation work as his chief assignment. He has been in the army since 1941. In civilian life, Capt. Brown was associated with his father in the firm of Clarence S. Brown Co., New York.

Richard B. Warren, Thorndale, Pa., is serving with a Chinese Combat Command field headquarters in South-Central China, as special service, post exchange, and supply officer. A first lieutenant, Warren was employed for

CHARLES COOPER CO., INC.
Bennington, Vermont

Manufacturers of
Quality LATCH and SPRING-BEARD



NEEDLES

also
Manufacturers of **THE FAMOUS COOPER CIRCULAR SPRING-NEEDLE RIB KNITTING MACHINES**

Protect Valuable Motors and Machinery *Clean them with—*

TORNADO Portable Electric Blowers

PREVENT motor burnouts, overheating and shutdowns. Keep motors and machinery clean. Blow out dust, dirt, lint, chips, etc. with the powerful, portable TORNADO Electric Blower. Quickly pays for itself in cutting repair and replacement costs. Write for details and FREE Trial Offer

BREUER ELECTRIC MFG. CO. 5086 Ravenswood Ave. CHICAGO 40, ILLINOIS

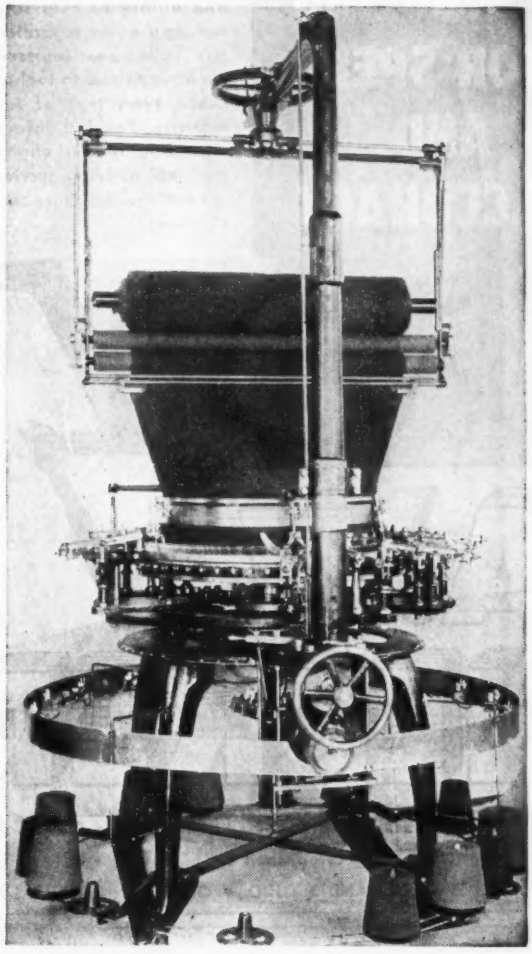
THE LOYAL T. **IVES** COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY



4 reasons for using

TOMPKINS

SINGLE HEAD—SPRING NEEDLE

KNITTING MACHINE

1. **50% reduction in cost of production on most coarse or fine fabrics.**
2. **Virtually double the poundage produced by earlier models of Tompkins spring needle machines.**
3. **Produces a superior quality of knitted fabric, getting the most out of every grade and size of yarn.**
4. **Basis of all statements is on actual mill performance and production on S-1 models now installed.**

All reasons that will save you money! The new S-1 single head spring needle machine is especially designed for overcoating materials. At the same time, any fabric can be knit on it that is knit on the older type spring needle table. Production is approximately 100 yards per 8 hour day, using 6 feeds.

For further details write us direct.

TOMPKINS BROS. CO.
INCORPORATED
ONEIDA ST. SYRACUSE, N. Y.

TOOLING FOR SPEED AND ACCURACY

● Hecker has the men, equipment and ability to help solve any tooling problem regardless of its size. In the past fourteen years we have helped to tool up practically every type of American Industry. For full information regarding Hecker engineering and tool building service write for our new brochure "Men and Machines".

A.W. HECKER

ENGINEERS and Tool Makers

Established 1931

1985 E. 66th ST., CLEVELAND 3, OHIO • OFFICES IN PRINCIPAL CITIES

REALIZE LARGE TAX BENEFITS

LONG ESTABLISHED, REPUTABLE CONCERN WITH SUBSTANTIAL CAPITAL

WILL BUY FOR CASH

Assets, Capital Stock, Family holdings of

INDUSTRIAL PLANTS, MANUFACTURING DIVISIONS, UNITS

We are Principals, and act only in strictest confidence, retaining personnel wherever possible, Address

Box 1222, 1474 Broadway, N. Y. C.

J. E. SIRRINE & CO.

GREENVILLE • SOUTH CAROLINA

Engineers for more than 40 years

TEXTILE MILLS • CHEMICAL PROCESS PLANTS

PULP & PAPER MILLS • WASTE DISPOSAL

STEAM POWER PLANTS • STEAM UTILIZATION

WATER • APPRAISALS • PLANS • REPORTS

seven years as a twister with Collins & Aikman, Philadelphia, Pa., before entering the armed services.

David G. Ferguson, an employee of the Union Bleachery, Greenville, S. C., before entering the armed services, has received a citation for meritorious service. A captain in the field artillery, he holds the Air Medal with five Oak Leaf Clusters.

Jack C. Childers, on leave from Erlanger Cotton Mills, Lexington, N. C., has been awarded the Silver Star for gallantry in action in Germany. He is a lieutenant colonel.

Albert M. Whisnant, Jr., former sales manager for Stonecutter Mills Co., Spindale, N. C., has been transferred from Europe to Washington, D. C. He is a captain in the Army.

Henry B. Pannill, of Pannill-Walker Underwear Co., Martinsville, Va., on leave with the U. S. Army, has been awarded the Bronze Star for heroic action in Luxemburg. He is a technician, fifth grade.

George W. Rand has been promoted to major, in the Southwest Pacific where he is a staff officer with the 49th Fighter Group. In civilian life he was associated with American Woolen Co.

ROBERT D. McDONALD, Chattanooga, Tenn., yarn broker serving in France, who has been promoted to the rank of colonel. A graduate of West Point, he served in World War I. Since January, 1924, he has conducted his own brokerage business in Chattanooga. He was commissioned a major in Air Corps when he re-entered the service.

E. Hester Warren, carding overseer at Cannon Mills Co., Kannapolis, N. C., before entering the Army, has been promoted to lieutenant colonel. He is serving with the Ninth Tactical Air Command in Europe.

Claude A. Cannon, Jr., connected with Cannon Mills in Kannapolis before joining the air forces, has been reported missing since March 10 in the India-Burma area. The son of Charles A. Cannon of the Cannon Mills, he is a lieutenant in the army.

Obituary

Harry Worcester Smith, 79, inventor of an automatic color loom which revolutionized the manufacture of ginghams and the patentee of some 40 other textile machinery improvements, died at his home in North Grafton, Mass., Apr. 5. He was a son-in-law of the late George Crompton, pioneer power loom manufacturer and inventor at Worcester. His industrial interests were wide, and he was famous in the world of sport as a master of many hunt clubs and participant in steeplechases.

David Allen, former vice president and director of Southern Friction Materials Co., Charlotte, N. C., was killed in action in the Pacific area recently. He was a lieutenant in the navy.

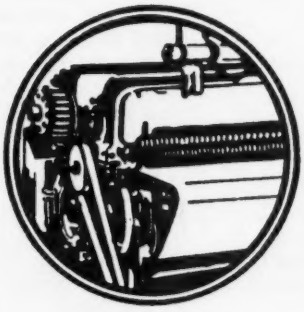
Francis V. Lael, who was associated with his father in the operation of Glen Alpine Knitting Mills, Glen Alpine, N. C., before entering the Army Air Force, and who was reported missing in action Apr. 5, 1944, has been reported killed over Romania. He was a first lieutenant.

Will Stackhouse, 78, for many years president of Marion Cotton Mills, Marion, S. C., died recently.

Francis Lynch, 64, vice president and director of Saratoga-Victory Mills, Inc., Gadsden, Ala., died Mar. 27.

Daniel J. Hudson, 82, owner of Burritts Rapids Woolen Mills, Ltd., Smith Falls, Ont., died recently. He had been

WEAVE FOR VICTORY



VICTOR MILL STARCH

"The Weaver's Friend"

- Always Uniform
- Dependable
- Carries Weight Into the Fabric
- Penetrates Thoroughly
- Boils Thin

Distributed by
CLAUDE B. ILER
Southern Manager
GREENVILLE, S. C.

F. M. WALLACE
HOMEWOOD, BIRMINGHAM, ALA.

C. C. SWITZER
GREENVILLE, S. C.

L. J. CASTILE
CHARLOTTE, N. C.

THE KEEVER STARCH CO. . . . COLUMBUS, OHIO

WEAVE FOR VICTORY

WEAVE FOR VICTORY

WEAVE FOR VICTORY

RAPIDASE

for de-sizing cottons, rayons and mixed goods

Assures rapid, dependable de-sizing
Our technical staff always at your service.

WALLERSTEIN COMPANY, INC.
180 MADISON AVENUE • NEW YORK

2 STANDBYS FOR RAYON PROCESSING

V VIRGINIA

"VIRGINIA" (LIQUID) SO_2 THE IDEAL ANTICHLOR

A "natural" for rayon processing because low concentrations are highly effective.

- ★ removes active chlorine
- ★ neutralizes residual alkalinity
- ★ constant make-up by continuous flow

Shipped in steel cylinders containing 150 lb. net weight.

"VIRGINIA" (MONOHYDRATE) $ZnSO_4$ the high Zn content Zinc Sulphate prepared specifically to meet the purity standards of rayon processing.

- — crystalline, free-flowing
- — non-caking
- — easily and quickly soluble

Packed in 100 lb. bags; 425 lb. bbls.

VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

AMERICAN

...more economical to use because....

it runs more efficiently, producing a finer quality product that can be sold easier and more profitably

AMERICAN
YARN AND PROCESSING CO

MOUNT HOLLY, NORTH CAROLINA

CHATTANOOGA, TENN.
Mr. Tom Moore
736 Chestnut Street

PHILADELPHIA, PA.
Mr. Wm. S. Montgomery
3701 N. Broad St.

HIGH POINT, N. C.
Mr. E. J. Holbrook

MOUNT HOLLY, N. C.
Mr. Edwin Hutchison
Miss E. R. Abernethy
Mr. T. J. Davis

NEW YORK, N. Y.
Mr. Rowland Swallow
Empire State Bldg.

CHICAGO, ILLINOIS
Mr. E. W. Wood
222 West Adams St.

Newly Formed Limited Company in EIRE,

Comprising members of well-known Technical and Distributing Firms, with connections in NORTHERN IRELAND, desire to contact Manufacturers in the following:—

Textile and Allied Machinery.
Flour Milling Machinery.
Machine Tools and Saw Milling Machinery.
Agricultural Dairy Machinery.
Road Making and Building Machinery.
Electrical Machinery and Equipment.
General Engineering Requisites and Small Tools.

Subscribers are prepared to offer erection and maintenance Service.

Enquiries to:

M, 1. Easons Advertising Services
DUBLIN, EIRE

Simplified **DESIGN**
Flexible **POWER**
Better **EVAPORATION**
More sensitive **CONTROL**

SOUTHWORTH HUMIDIFIER

Experienced textile men who know the merits of previous models of Southworth Humidifiers have found improvements in Model D that make it even more reliable and efficient.
Extreme sensitivity of control, and an "airplane propeller" type fan for greater evaporation, are two outstanding features.

NOTE
This advertisement is to remind you to include Southworth Humidifiers in your after-the-war plans. Frankly, we are 100% on war work and cannot make humidifiers at the present time.

THE SOUTHWORTH MACHINE CO.
PORTLAND MAINE

in the woolen manufacturing business for 68 years.

Arthur Johnson, 33, formerly assistant manager of George Wood Sons & Co., New York, was killed in action in Germany, March 24. He was commissioned flight officer upon graduation from Glider School, and had received the Air Medal, two Oak Leaf Clusters, and Presidential Citation.

J. Stanley Tattersfield, president of J. S. Tattersfield, carpet wool merchants, died recently in Philadelphia.

Robert E. Walker, of New Rochelle, N. Y., died recently. He was associated with the underwear business for more than 50 years, during most of which he represented the Medlicott Co., Windsor Locks, Conn.

N. McLaurin Cranford, 61, president of McLaurin Hosiery Mill, Asheboro, N. C., a subsidiary of Burlington Mills Corp., died recently.

Lawrence J. Harrington, treasurer and general manager of Elliott Mfg. Co., Manchester, N. H., died suddenly in Nashua, N. H., Apr. 14. He was among the early manufacturers of rayon goods.

Francis R. Clark, 45, vice president of Plymouth Cordage Co., died in Framingham, Mass., Apr. 15.

John E. Hatt, manager of the cellophane division, E. I. Du Pont de Nemours Co., Richmond, Va., recently died at his home in Greenville, Del. Mr. Hatt joined the company in 1917 and became manager of the cellophane division in 1937. He is succeeded by Thomas L. Hines.

Alexis Sommaripa, 45, civilian member of the Psychological Warfare Branch serving with General Patton, was killed in action in Germany on Mar. 28. He was previously head of the fabric development department of the Rayon Division of the E. I. du Pont de Nemours & Co. and a pioneer in that work.

Frank I. Neild, formerly of New Bedford, Mass., and a past president of NACM, died in Manila from the effects of his confinement following his release from Santo Tomas prison camp.

Orrin Kendall Boice, on leave from Cannon Mills, was killed in action in the Asiatic area. He entered the Navy with the first V-7 training class and was a lieutenant at the time of his death.

Capt. Charles D. Kirk, 51, USN, died recently in Brooklyn, N. Y. He has been in the service for 32 years, and was supply officer in command of the Naval Clothing Depot in Brooklyn.

Howard H. Cannon, 46, Charlotte, N. C., southern manager of the Duplan Corp., died recently.

Earl D. Unger, 54, died recently in East Greenville, Pa. For the last 30 years he was associated with Robert H. Shaner in the Perkiomen Knitting Mills.

C. J. Story, 74, head of the mechanical department of Arnall Mills, Newnan, Ga., died recently.

Henry H. Lorah, 89, died Apr. 12 in Reading, Pa. He was the first employee of the Textile Machine Co., founded by Ferdinand Thun and Henry K. Janssen, and has served in many capacities with the firm. He has been on the payroll since July 5, 1892.

George Edward Bouchard, 35, superintendent of weaving, Southern Worsted Mills, Greenville, S. C., died Mar. 27.

Louis Plouff, veteran foreman of the picker department at Elm Woolen Mills, Inc., Tilton, N. H., died recently.

John L. Grover, Jr., son of John L. Grover, Atlanta manager of Saco-Lowell Shops, was killed on Iwo Jima, on Feb. 21. He was a corporal of the Marine Corps, 24th Marines, Fourth Division.

David Benjamin Chandler, 68, for about 40 years superintendent of the cloth room of Newberry Cotton Mills, Newberry, S. C., died Apr. 2.

R. H. Inman, 67, carding superintendent of Proximity Mfg. Co., Greensboro, N. C., for 35 years, died recently.

John W. Booth, 74, former night superintendent of Rocky Gorge Woolen Mill, South Berwick, Me., died recently.

MINEROL

The OUTSTANDING Conditioner for Textile Fibres

- Makes fibres more supple, pliable
- Reduces breakage of long fibres
- Minimizes ends down at high speeds
- Provides control of static conditions
- Aids combing as well as carding
- Saves good fibres, lessens waste
- Improves employee morale through prevention of dust and fly.

SERVING THE TEXTILE INDUSTRY FOR 68 YEARS. ORIGINATORS OF THE BRETON MINEROL PROCESS FOR CONDITIONING FIBRE.

BORNE SCRYMSER COMPANY
ELIZABETH • NEW JERSEY

WE HAVE TOPPED OUR 10% WAR BONDS EVERY PAY DAY

D. R. KENYON & SON
RARITAN, N. J.

MACHINERY
TENTERING
and DRYING

ROME SOAP MFG. CO.

WRITE US FOR SAMPLES AND QUOTATIONS

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
ROME, N. Y.

ALBI
CHEMICAL CORP.

Manufacturers

MILDEWPROOFING COMPOUNDS

To Meet Government Specifications

FLAMEPROOFING COMPOUNDS

9 PARK PLACE NEW YORK CITY (7)

SEARCHLIGHT SECTION

EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESA

UNDISPLAYED RATE:

10 cents a word, minimum charge $2.00.
(See ¶ on Box Numbers.)

POSITIONS WANTED (full or part-time salaried employment only), ½ above rates.

PROPOSALS, 50 cents a line an insertion.

INFORMATION:

BOX NUMBERS care of publication New York, Chicago or San Francisco offices count as 10 words additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED RATE:

The advertising rate is $5.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches —to a page. T.W.

NEW ADVERTISEMENTS received by 10 A. M. June 4th will appear in the June issue, subject to limitations of space available.

SUPERINTENDENT

WANTED

18 Set Woolen Mill New England. Position open for top notch man in mill production mostly single and plied knitting yarns. Must have expert card room knowledge and background including Ring-Doffers, and tapes; must have thorough knowledge of raw stocks including cotton rayons and wools. Will also consider for this position, top notch boss carder with good administrative ability. This position carries a high salary for man who can meet our requirements. Write complete details as to age, past experience, etc. All replies held in strict confidence.

P-260, Textile World
330 West 42nd Street, New York 18, N. Y.

SUPERINTENDENT WANTED

For Yarn and Fabric Finishing Plant. Must have experience and college training. This is a large finishing plant with a well established company which is doing a great deal of expanding. A position which would have a future for a man with ambition and proper qualifications. Give age, experience and salary expected, all of which will be considered confidential.

P-235, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

PRODUCTION MANAGER BRAIDED RUG MILL

Large eastern cotton rug manufacturer has opening in organization for production manager in braided rug division; excellent future for right man who must be conversant with all phases of business including raw materials, labor training, styling. State full details experience, age, compensation desired, etc. All replies will be held strictly confidential.

P-266, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Assistant Plant Engineer

30-40 Mechanical graduate preferred with executive ability. Should have previous experience in Plant Engineering and maintenance. Should be familiar with power plant and machine shop operation. Location: Massachusetts.

State age, experience, details of education, draft status, present salary and salary expected. Post war opportunity. USES certificate of availability and Draft Board clearance necessary. Send photograph.

P-238, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

PLANT ENGINEER

With technical education to head maintenance department of fifty men in woolen mill in Philadelphia area. A good post-war position. State experience, age, education, references, salary expected

P-261, Textile World
320 West 42nd St., New York 18, N. Y.

OPPORTUNITY

Foreman with experience in garment finishing room wanted by New York State manufacturer of underwear and allied products. All correspondence strictly confidential. Write

P-268, Textile World
330 West 42nd St., New York 18, N. Y.

CHEMISTS

with textile and detergent experience. Immediate openings available with established chemical company, permanent positions either sales-service or research departments. Excellent salary and chance for advancement now and post-war. Give complete details.

P-232, Textile World
520 North Michigan Ave., Chicago 11, Ill.

WANTED

American Company with cotton mills in South America requires overseer of carding and spinning also overseer of weaving. Both must be practical men thoroughly familiar with machine operations and fixing and having experience managing labor.

Write full details care Box 286, New York 8, N. Y.

POSITIONS VACANT

WANTED: MAN to take charge of quality t
ing laboratory experience with cotton
synthetic textiles desirable. Work will incl
physical and chemical analysis in relatio
research and development and promotional
tivities of national service organization. L
tion Dallas, Texas. Write including educa
experience, and expected salary range.
tional Cotton Council of America, P. O. Box
University Station, Austin 12, Texas.

EXPERIENCED KNITTERS on tricot
double woven machines with national firm
long established record in the knitting f
Splendid opportunity for advancement for
men who can qualify. P-271, Textile Wo
330 W. 42nd St., New York 18, N. Y.

WANTED: A man fully capable of dismant
and crating cotton mill machinery for ex
shipments. Must state experience had in d
this kind of work. P-272, Textile World,
W. 42nd St., New York 18, N. Y.

WANTED—MULE fixer or man familiar w
repairing cards and mules. We are opera
on Government orders. Susquehanna Woo
Mills, New Cumberland, Pa.

EXCELLENT OPPORTUNITY: for technic
trained graduate interested in textile
search and development work. Respons
position with large, progressive New Engl
textile manufacturer. Salary commensur
with ability and experience. Give all pertin
information and enclose recent photogr
P-273, Textile World, 330 W. 42nd St.,
York 18, N. Y.

POSITIONS WANTED

ASSISTANT SUPT. thoroughly experienced
dobby and jacquard designing, loom fix
and weaving with some laboratory experi
and two years as supervisor in a throw
plant. Textile graduate with 24 years exp
ence in cotton mills. PW-248, Textile Wor
330 W. 42nd St., New York 18, N. Y.

TRICOT MECHANIC, single and double ne
bar. Also cut presser. At present emplo
seeking a change. PW-274, Textile World,
W. 42nd St., New York 18, N. Y.

A CAPABLE mill superintendent cordially
vites correspondence from officials who
desirous of locating a competent man. Sout
location preferred. Confidential. PW-275,
tile World, 330 W. 42nd St., New York 18, N.

(Continued on opposite page)

POSITION WANTED

TIME STUDY MAN INDUSTRIAL ENGINEER

Seeks position in textile industry. Three years time study, job evaluation, and related experience. B.S. degree.

PW-269, Textile World
330 W. 42nd St., New York 18, N. Y.

EXECUTIVE

Dyeing and Finishing field. Thoroughly experienced in processing, production and equipment Northern and Southern plants desires new contact where knowledge and ability can be used to full advantage. Interested in new projects or reorganization of present setups.

PW-241, Textile World
330 W. 42nd St., New York 18, N. Y.

THERE ARE MANY ATTRACTIVE OPENINGS IN MILLS

In all sections of the United States and Canada. If you are seeking employment, write us fully regarding your experience and position desired; we will inform you of positions now open in your line of work.

CHARLES P. RAYMOND SERVICE, Inc.
294 WASHINGTON STREET BOSTON 8, MASS.
Over 45 years' confidential employment service for men seeking positions and employers seeking men.

(Continued from opposite page)

SALESMAN WANTED

TECHNICAL MAN wanted for sales and demonstration work in New England. Opportunity to advancement to district manager. Some experience in warp sizing, textile printing or textile finishing desirable. State age, experience, past earnings. SW-276, Textile World, 330 W. 42nd St., New York 18, N. Y.

SALESMAN AVAILABLE

TECHNICAL COLLEGE graduate; age 45; 22 years experience skein dyeing; desires association with dyestuffs or textile finishes manufacturer as salesman. Please give details in first letter. SA-250, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

REPRESENTATIVES AVAILABLE

AGENCIES for Australia required for Manchester goods, cleaning cloth, cotton waste and general merchandise. Reply David Hyman, Merchant, 12 Henry Street, Kew, E4, Melbourne, Australia. (Bankers — English, Scottish & Australian Band Ltd., Kew, Melbourne, Australia.)

REPRESENTATIVE EUROPE. British company with offices in England and Continent wishes to represent American manufacturers of textile and auxiliary machinery, spare parts, yarns and any articles used in the textile trade. Excellent references. Correspondence invited in first instance to RA-277, Textile World, 330 W. 42nd St., New York 18, N. Y.

CANADIAN REPRESENTATIVE, long established firm, offices and warehouse Montreal and Toronto, excellent connections with cut-up trade, wholesalers, retail stores across Canada, wishes Agencies Manufacturers and converters now and post-war trade, buying also own account. RA-278, Textile World, 330 W. 42nd St., New York 18, N. Y.

FOR YOUR export to Europe: Swiss agency firm desires to represent capable manufacturers and exporters. Switzerland the heart of the continent. First-class references. Write P. O. B. 64, Zurich 22, Switzerland.

BUSINESS OPPORTUNITIES

WANTED—PRODUCT for manufacture or sale. Manufacturer of flat-weave floor coverings is seeking suitable product for immediate or post-war manufacture or sale. BO-227, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

HIGHLY QUALIFIED rayon throwster with wide experience in the throwing field seeking (a) a manufacturer having idle throwing machinery or throwing plant, desiring to sell, rent or resume operations on a profit sharing or salary basis; or (b) seeking opening as throwing supt. capable of training own help and having Northern and Southern experience. Age 44, references. BO-281, Textile World, 330 W. 42nd St., New York 18, N. Y.

WE ARE interested in buying a small cotton weaving mill. Have unusually interesting proposition. BO-279, Textile World, 330 W. 42nd St., New York 18, N. Y.

INTERESTED TO purchase small cotton spinning plant for immediate use. Prefer going firm. BO-280, Textile World, 330 W. 42nd St., New York 18, N .Y.

ARGENTINA

Textile Machinery Mfg. & Assembly Plant of renown wants substantial U.S. Producers of Textile Spindles, Drawing-Frames, Parts, Accessories etc. for representations, manufacturing, assembling. Communicate in confidence.

RW-264, Textile World
330 West 42nd St., New York 18, N. Y.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL

Interesting booklet concerning Inventions, Patents, Trade-Marks and Copyrights, together with Schedule of Government and Attorney's Fees, sent without obligation. Simply ask for "booklet and schedule."

Established 1915

Patents & Trade-marks
Suite 448, 815—15th St., N.W., Washington 5, D. C.

DESIGN & MANAGEMENT CORP.

Engineering, Design & Development; Labor-Saving & Textile Machinery, Inventions & Products Developed, Fabric Analysis under direct supervision of *Otto Engelhard, Noted Textile Expert.* Automatic, Hydraulic, Pneumatic, Plastic and Rubber Machinery; Tool, Electrical and Electronic Design; Standard Cost Systems, Wage Incentives, Time & Motion Studies, Job Eval., Reconversion.

82 Beaver Street New York 5, N. Y.

MEN WANTED

by

Nationally known textile machinery manufacturer located in New England

NEW ENGLAND SALES REPRESENTATIVE

Must have training or experience on twisting of synthetic and natural yarns.

TEXTILE ENGINEER

Must have good background on actual mill operations. Intended for use on organization and set-up of new mills, mill surveys, mill operational costs and procedures, and some direct sales work.

Reply in detail, giving age, family status, draft classification, education, experience, salary expected, and enclose recent snapshot.

RW-254, Textile World
330 West 42nd Street, New York, 18, N. Y.

SOUTH AFRICA

Important and old established manufacturers' representatives possessing excellent selling organization and financial resources are desirous of establishing direct connections with American manufacturers of textiles, wearing apparel, hardware, crockery, cutlery, enamel ware, fancy goods and general merchandise. References upon request. Write fully.

Write fully.

M. STRIKER,
500 Fifth Ave., New York, N. Y.

WANTED
Machine Designer

Graduate engineer 30-40 for design and development of Textile machinery. Should have previous development experience on existing and new machines. Should be acquainted with modern shop practice and methods. Ability to supervise group of designers and draftsmen necessary. Location: Massachusetts.

State age, experience, details of education, draft status, present salary and salary expected. Post war opportunity. USES certificate and availability and Draft Board clearance necessary. Send photograph.

P-239, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
Woolen Mill Superintendent

Progressive mill in the Philadelphia area manufacturing woolen specialties requires the services of a woolen mill superintendent with managerial ability. Good post-war opportunity. State age, education, details about experience, salary expected.

P-262, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
LACE DRAFTSMAN

Experienced, by well established firm in New York State. Apply in writing, stating details of experience.

P-205, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

Experienced Operator on Tompkins Spring Needle knitting,—running on light weight balbriggan cloth,—Night shift,—Good wages, steady work.

Apply ELMIRA KNITTING MILLS
Elmira, New York

FOR SALE

One good mill building in Piedmont Section of South Carolina. Large enough for 400 looms and necessary carding and spinning equipment. Has power plant to develop minimum of 600 H.P. Plenty warehouse space. 80 houses to go with mill if desired. 450 acre land.

BO-206, Textile World
330 W. 42nd St., New York 18, New York

RAYON AND SYNTHETIC FIBRE YARN MANUFACTURERS—
Swiss Firm Seeks Agency For Your European Business!

Specialists in the import and sales of silk yarns, DeSchulthess Company, formerly Charles Rudolph Co., of Zurich, Switzerland, and Lyons, France, seeks exclusive agency for your European business. Mail your offers or inquiries to Mr. Fritz De Schulthess, our senior partner, who will be with Credit Suisse, 30 Pine Street, New York, during May and June. Reference, Irving Trust Company, New York.

DE SCHULTHESS CO.

Established 1889 Zurich, Switzerland Lyons, France

wanted—PLUSH LOOM WEAVING

Upholstery post war wish to place commission weaving orders with mill which also has 7000 sq. feet available for additional pile fabric looms.

CW-258, Textile World
330 West 42nd St., New York 18, N. Y.

MILLS WANTED

MILL WANTED

An account, for whom we act as Factors, desires to buy a mill, manufacturing hosiery or underwear, for men, women or children. A sale may be arranged on a basis where 100% control is sold, or where only a part interest is sold, but in any event retention of present management is contemplated. Replies will be held in confidence where requested. Submit complete details with your reply.

COLEMAN & COMPANY, *Factors*

468 Fourth Avenue, **New York City**

VETERAN

WANTS TO BUY OR LEASE

Small or medium-sized woolen mill. Prepared to make attractive offer for right proposition. Reply to

BO-263, Textile World, 330 West 42nd St., New York 18, N. Y.

wanted–PLUSH MILL

Weaving Mill up to 20 looms making 54" cloth, with 7000 sq. feet available for additional looms, with or without your present personnel.

W-255, Textile World
330 West 42nd St., New York 18, N. Y.

YARN MILL

A Carolina cotton mill 85 cards, 21000 spindles producing 45000 pounds double processed carded combed yarns per week, offered for sale. $40.00 per spindle plus goods in process, supplies, etc.

This profitable mill, supplies, goods in process valued in excess $950,000. Terms half cash.

WHITE AND COMPANY
Palmer Bldg. **Atlanta, Ga.**

EQUIPMENT WANTED

WANTED
ONE BALING PRESS
To bale waste, size 72"x30" with upstroke either electric or hydraulic. If electric must be equipped with motor with current 60 cycle, 3 phase, 440 volts, Write full details
W-229, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
CURTIS & MARBLE
KNIT GOODS NAPPER
W-988, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
TWO GOOD TAPE CONDENSERS
for sixty inch cards, with four single aprons, eighty ends, twenty ends on spools, four spools each. Give full particulars, price, age, location and condition.
W-230, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED
LOOMS
16 or more 66" Draper looms 1 x 1 automatic magazine, 20-25 harness, modified D Worsted Model.
INTERNATIONAL LOOMS, Inc.
464 FOURTH AVE. **NEW YORK, N. Y.**

WANTED
One Sipp Creel
up to 600 ends
W-259, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED
600 to 750 KW 80% P.F., 3 phase, 60 cycle, 480 or 2300 volt alternator direct connected to a vertical full diesel engine.
Furnish complete specifications, serial numbers, age, general condition and price.
W 265, Textile World
520 N. Michigan Ave., Chicago 11, Ill.

WANTED
Surplus
Chemicals, Dyes, Gums, Oils, Waxes, Greases, Pigments, Residues, By-Products, Wastes
W-270, Textile World
330 West 42nd St., New York 18, N. Y.

WEAVING

May have grown from a

SPIDER-WEB

THE beginning of weaving is a mystery. The Greeks say it was invented by Arachne, taught by Minerva to imitate a spiderweb. The Egyptians credit the goddess Isis. Homer, the Greek poet (850 B.C.), was the first historical writer to tell of weaving, altho' it is mentioned in the Bible; while the Chinese claim silk weaving was practised in 2640 B.C.

Illustration from the Bettman Archive

SERVING THE TEXTILE INDUSTRY

1—60" C & M Brusher
1—66" C & M Brusher and Sander
3—46" x 52" Button Breakers
3—42" Butterworth 3-Roll Friction and Rolling Calender, 1—motor driven, 2-belt dr.
1—60" D. & F. 2 cyl. Iron Shoddy Card
1—72" Kenyon 2-Bowl Crab
1—Sargent Yarn Conditioning Machine
2—100 Spindle Foster Model 25 Doublers
1—36" Doubling & Winding Machine
1—46" Windle Doubler
1—6 Delv. Whitin Drawing Frame with 12" coiler, and motor
1—4 and one 6 delv. H & B dr. frame
1—Franklin Package Dyeing Unit, incl. three 100-lb. and one 300-lb. machine, extractor
1—30" American Laundry belt driven extractor
1—40" Tolhurst extractor, belt-driven
2—Hunter No. 10 Fulling Mills
10—40" C & M 42", 46", 50", 100" Folding Machines
1—52" James Smith Card Grinder
60—42" Modified "E" Draper with roller tops, 47½" reed space, belt driven
12—76" cloth Draper modified D automatic Looms, 81" reed space with Lacy tops for 6 harness work, motor driven
18—92" C & K 4 x 4 25 Harness Belt driven woolen looms

FOR SALE
COMPLETE WORSTED TOP PLANT
Including

2—48" Sargent, 4 bowl Wool Scouring Machines with Feeders and Dryers
5 Back Washers
1 15-cylinder
4 9-cylinder
22 2-cylinder Worsted Cards:
9 60 x 60 Davis & Furber,
7 60 x 60 Smith & Furbush, &
6 54 x 50Platt, All with Iron Cylinders
22 Noble Combs
21 Taylor-Wardsworth
1 James Smith
32 Gill Boxes—Prince-Smith
4 Single Head Balling Machines

4—240 sp. D & F 2" gauge Mules
1—336 spindle Johnson & Bassett 2" gauge mule with 24 drums
1—90" D & F Single Acting 14 Roll Napper
24—72" Stafford 2x1 automatic Looms 77" reed space, 25 harness head motions, motor driven

1—24" Parkhurst Burr Picker
1—40" Parkhurst Power Picker
3—65½" Voelker double bed rotary clot presses belt driven 16" cyl.
1—66" Gessner double bed rotary clot press belt driven 12" diameter roll
1—84" Voelker Cloth Press, motor drive
2—50" Dinsmore Inspecting, Sewing Rolling Machines, Mtr. Dr.
1—60" C & M Plush Shear
2—66" C & M 2-Blade Shears
12—66" P & W 2-Blade Shears
1—66½" P & W Model A 2-Blade Shec
1—72" Monforts 2-Blade Shear
1—Schultze 106" Double Shear
1—Smith & Furbush Rag Shredder
1—42" C & M 5 Burner Gas Singer
12—256 Sp. Whitin 2" Ring Spinners
6—24 Spindle Fairmont Drum Spooler for 4½ x 6" spools
10,000—4½ x 6" Wooden Spools
6—120 Spindle Draper Spoolers
1—60' C & M Tiger, Arranged for Mtr. D
2—100 Spindle Foster #12 tube winder belt driven
1—200-spindle Draper 2¼" Ring Tap Drive Twister
1—108-spindle F & J 4½" ring Tape Driv Twister
5—D & F Warpers with Beamers, etc 82" to 100".
2—54" Entwistle Warpers

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. 1923

31-33 West 42nd Street — NEW YORK 18, N. Y.

DOMESTIC — TELEPHONE PEnnsylvania 6-8014 — EXPORT

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUUPPLIES

PATERSON

FOR

QUICK ACTION

ON

TEXTILE EQUIPMENT

Special

20—4 x 4 Crompton and Knowles woolen looms, 82"

24—72" 4 x 4 Crompton and Knowles woolen looms 20 harness, intermediate head, motor driven.

10—76" 4 x 4 Crompton and Knowles woolen looms, 25 harness, intermediate head, motor driven.

• • • • •

PARTIAL LISTING ONLY

WRITE US OF YOUR PARTICULAR REQUIREMENTS. IMMEDIATE ATTENTION GIVEN TO EVERY INQUIRY.

- 50—Crompton & Knowles, 4 x 1, 52" Looms, roller bearing, shock absorber, high pickwheel, removable cloth rollers individually motor driven, warp stop motions and pick counters.
- 16—Crompton & Knowles, 4 x 4, 82" reed space, 25 harness intermediate heads, large shuttle boxes, woolen looms, individually motor driven, complete with 1 HP, 3 phase, 60 cycle, 220 volt motors.
- 30—4 x 4, 72" Crompton & Knowles Worcester looms, roller bearing shock absorber, motor driven, 1 HP, 3 Phase motors, oversized shuttle boxes, extended bottom shaft for Jacquards.
- 20—4 x 4, 64" Crompton & Knowles Worcester looms, motor driven, extended bottom shafts for Jacquards.
- 200 Universal #90 quillers or coppers, with or without bunch builders, belt driven or motor driven.
- Sipp or Eastwood winders to wind from skein to spool.
- Sipp or Eastwood warpers and creels.

Over 100 Jacquard Machines 624 hook coarse index
Over 60 Jacquard Machines 1304 hook fine index
Over 40 Jacquard Machines 2608 hook fine index
} ALL DOUBLE LIFT

Looms Warpers Winders	Jacquard Machines Spinning and Throwing Machines	Dyeing Machines Textile Motors Shuttles - Quillers	Coppers Finishing Machine Harnesses

• ***CONTACT US FOR QUICK ACTION ON TEXTILE EQUIPMENT***

PATERSON SILK MACHINERY EXCHANGE

24 SPRUCE STREET • SHERWOOD 2-1363-4-5 • PATERSON, N. J.

"IF YOU CAN'T USE IT - SELL IT!" Uncle Sam

DON'T LET ANY MACHINE STAND IDLE

SELL IT TO "CONSOLIDATED"

We'll Get It Into Production

Send us your list **TODAY**

EXTRACTORS
V. & Tolhurst 54" & 60"; rubber & copper ets.
V. Fletcher & Tolhurst 40-48", copper lined. hurst, American Laundry, Bock & Troy 42", copper baskets.
Raw Stock Extractors.
nles 30" Open Top Extractor.

SCOURING & DYEING
g Washers, completely enclosed.
ent 3-Bowl Skein Scouring machine.
der-Weldon Skein Dyeing Machines.
rnaier Yarn Dyeing Machine.
man 100-arm skein dyeing machines.
h Drum Skein Dyeing Machine.
le Tier Combination Beam & Package
3 Monel Rotary Dyers, 3 & 4-pocket units.
r Type Skein Dyeing machine.
kiln Cast Iron Pkgs Dyers—6-600#.

DRYERS
nal & P & S Loop Dryers, 30-65' long.
572" Raw Stock Dryer, auutomatic feed.
Raw Stock Dryer, 48", automatic feeder.
nt & Hunter Wool Carbonizers.
S. Oven type Package Dryers.
Dryers, 1 & 2 trucks.
pass Airlay Dryer.
r & Schwartz Yarn Dryers.
Tenter Dryer, 64" wide.
5-Tier Net Dryer.
coate and Kenyon Cloth Dryers.
r & Schwartz Hosiery Dryer.
& Lombard Cloth Dryer.

NAPPERS
F single acting Nappers, 60 & 84".
r & Woensocket double acting Nappers, 4" & 90".

TENTER FRAMES
lle Fin. Mach. 90'x50" Tenter.
J 80'x50" Swing Tenter.
coate Pin Tenter.
Tenter with Bakelite clips.

LMER QUETCHES & TENTERS
Palmers, 60" & 72".
rson & V.V. 50", 60" & 72" Palmer tches.
rworth 80" Palmer.
& General Machine 60" Palmerettes.

DERS, MANGLES, QUETCHES
lle & Butterworth 2-Roll Padders, 50", 62", 72".
rworth 2-Roll 80" Padder.
rworth 50" 2-Roll Starch Mangles.
n Hunter 50" Water Manger.
rworth & Merrison 2 & 3-roll Quetches, 72".

BUTTON BREAKERS
rson & V.V. Button Breakers, 50-72", rolls.

BEAMERS—BATCHERS
Vlaanderen 50" & 60" Beamers.
ers, 48", 50" & 72".

LAT FOLDERS & DOUBLERS
Hall Flat Folders, 42"-60", with motors.
W & Windle 46"-60" Doubling, Reeling & ring.
Double complete with motor.

COATING MACHINES
nd rubber coaters, 50"-72".

SEWING MACHINES
w 60ABB & 60D3B on stands and tracks.
Special and Singers.

BRUSHING MACHINES
W Cloth Brushers, 72" & 100".

SLASHERS
-Lowell Cotton Slashers.

DECATERS
W & Yale Decaters 72".

AND HOLD MORE WAR BONDS

WASHERS
1—Continuous 60" Boil-Off Machine, steel tanks.
1—Van Vlaanderen 60" Open Washer.
2—Open Washers, 5 & 8 compartments, 50" face.
1—3-Compartment Monel Rotary Washer.
1—60" Open Washer.

CALENDERS
2—V.V. Ball Bearing Calenders, 50" & 60".
6—V.V. Butterworth & Textile, 3, 6 & 7-Roll Hydraulic Calenders, 80".
3—Butterworth & Perkins 40", 54" & 80" 3-Bowl Schreiners.
1—Butterworth 3-Roll 54" Friction Calender.
2—54" and 65" Embossers.
1—Textile Fin. 3-Roll Narrow Friction Calender.

SHEARS
3—P & W 2-Blade Shears, 60" & 66½", complete with lint saving device and brushes.

DYE BECKS
12—Morrison & V.V. 6' to 9' Dye Becks, stainless steel and wood tubs.

DYE JIGS
2—Morrison 60" Dye Jigs.
4—Morrison Dye Jigs, 40", S.S.
1—Butterworth Scouring Jig.

DRY CANS
355—Dry Cans, 50" to 112" face, 23" to 84" dia.

Small Complete Woolen Mill
Complete Weaving Plant

PRINT MACHINES & EQUIPMENT
2—BTA & BTS Motors, 25, 35 & 50 horsepower. Star gears, mandrels, copper pans & doctor blades.
1—Franklin 3-Color 45" Print Machine. Complete with Jack, and 8 Copper Rolls.

PRINTING MACHINES
7—R. B. & F 1-10 color Print Machines, 40"-60".
1—Waldron 4-Color Wallpaper Print Machine.
1—V.V. 10-color Ribbon Print Machine.

TUBERS
5—Tubing & Measuring Machines, 50"-60".
1—Hermas 60" Measuring Machine with Motor.
3—New 60" Beamers.

KETTLES
4—Textile Copper Steam Jacketed Color Kettles, tilting, agitated, 40-150 gallons.

WEAVING MACHINES
24—C & K 92" automatic looms.
13—C & K 82" automatic looms.
10—Draper 79" automatic looms.
52—C & K 52" automatic looms.
24—C & K 4x4 Automatic Tapestry Looms, 64".
30—72" Jacquard Looms, C & K.
60—Crompton & Knowles 92" Woolen Looms.

AGERS
2—Butterworth Cast Iron Agers, 18' & 30' lg-50-60" wide.

KNITTING MACHINES
150—1" to 21" Circular Knitting Machines.
4—Wildman 23" Ribbers.
2—Grosser Knitting Machines.

PREPARATORY MACHINES
2—Sargent & C & M Burr Pickers.
2—30" Rag Pickers.
1—40" Kitson Pickers.
1—40" Mixing Picker.
1—C & M 40" Fearnaught Picker.
2—Saco Lowell Condensers.
2—Saco Lowell Vertical Openers.
4—Pangborn Dust Collectors.
1—Conical Duster with dust blower.
1—Sargent Cotton Picker.

CARDING MACHINES
14—Sets D&F Wool Waste Cards, 48" x 48".
3—Sets D&F Woolen Cards, 48" x 48".
1—Woolen Card, 48" x 60" diameter.
3—Sets D&F Worsted Cards, 60" x 54".
2—Sets D&F Worsted Cards, 60" x 48".
2—Sets D&F Worsted Cards, 54" x 54".
2—Furbush Worsted Cards, 48" x 48".
6—Sargent, Bramwell & Harwood Feeds.
1—Barker Triple Rub 3-bank condenser.
16—Whitin D-2 Combers.
8—Hetherington Silver & Ribbon Lap Machines.
2—5-cylinder 48"x48" Shoddy Cards, equipped with Bramwell Feeds & metallic breasts.

SPINNING & YARN MACHINES
52—Whitin & D&F Spinners, 240-252 spindles 2"-3½" gauge, band driven.
1—D&F Wool Spinner, 4½" gauge.
36—Deliveries H&B Drawing Frames, 12" coilers.
1—J&B 336-spindle Mule.
6—Platt Worsted Mules.
1—Sipp Double Deck Winder.
1—P-S Ring Twister, 5" band drive.
3—Fletcher Double Deck Winder.
2—Foster #101 Cone Winders.
12—Universal #50 & #90 Winders.
8—Atwood 50-B Spinners.
2—Sipp 72" Warpers.
3—Whitin & Atwood Skein Reelers.
4—Jack Spoolers, complete with creels.
7—H&B Speeders, 5" gauge.
2—Foster #12 Winders.

WATER SOFTENERS
1—Permutit Water Softener, 103" hg. 63" wd.
2—10 x 10 Vertical Softeners, Zeolite.
3—Pressure Sand Filters, 8' dia. x 20' long, complete.

FULLING MILLS
2—James Hunter #10 Fulling Mills.

GARNETTS
3—James Smith 3-cylinder Garnetts.
1—P & S Single Cylinder 20"x60" Garnett.
1—P & S 2-cylinder 20"x60" Garnett.

We buy from
SINGLE ITEMS
to
COMPLETE PLANTS

Send your list of IdleEquipmentNow

For War Production Now

To Create Jobs After the War

THE KEY TO SAVING TIME AND MONEY

FOR OVER A QUARTER CENTURY A SYMBOL OF CONFIDENCE

CONSOLIDATED PRODUCTS COMPANY, INC.

Address Inquiries to

TEXTILE DIVISION, PATERSON, N. J.

5th Ave. & McLean Blvd. • Tel. ARmory 4-6540

15 Park Row, New York 7, N. Y. Tel BArclay 7-0600

Thinking about postwar equipment problems?

SIMPLIFY IT →

Ask McDOWELL ASSOCIATES

Whether you want to Buy or Sell a single piece of equipment or a complete plant, our experience insures satisfaction!

"PARTIAL LIST"

1—BALE BREAKER 12' apron.
4—CARDS 2 Cylinder 60x48.
2—CARDS 1 Cylinder 48x50.
2—CARDS 3 Cylinder 48x48.
4—COMBS Worsted with circles.
2—CONDENSERS Tape for 60" Cards.
1—CONE WILLOW.
25—DELIVERIES of DRAWING.
2—FEEDS, Bramwell 40" and 54".
1—GARNETT 30x60 B.B. excellent Wire, Double Cylinder.
4—GILL BOXES Single Head.
3—GILL BOXES Double Can.
4—INTERMEDIATES 9x4½, 84 Spindle units.
200—LOOMS Draper E 32" Belt Driven.
10—LOOMS Draper E 36" Motor Driven.
100—LOOMS Draper E 40" Motor Driven.
45—LOOMS Draper D 42" Motor Driven.
100—LOOMS C&K 4x1 Box 41½" Motor Driven.
40—LOOMS C&K 2x1 Box 41½" Motor Driven.
50—LOOMS C&K 4x1 Box 56½" Belt Drive.
24—LOOMS C&K 4x1 Box 79½" Motor Driven.
22—LOOMS C&K 4x2 Convertible, 82".
40—LOOMS C&K 4x4 Box 92" Motor Driven.
20—LOOMS C&K 2x1 Box Automatic Cam 92".
10—LOOMS C&K 4x4 Box 48" Belt Drive.
2—MULES 2-3/8" Gauge 420 & 488 Spindles.
2—MULES 2" Gauge 324 Spindle Units.
6—MULES (WORSTED) 650 Spindles each.
4—SPEEDERS 8x3½, 144 Spindle Units.
4—SLUBBERS 12x6, 72 Spindle Units.
2—SPINNING FRAMES WOOL 144 Spindles 5½" Gauge.
8—SPINNING FRAMES 208 Spindles each 3¼" Gauge.
15—SPINNING FRAMES Tape Driven 3" Gauge 2" Ring.
30—SPINNING FRAMES Band Driven 3" Gauge 2" Ring.
9—SPOOLERS 40" & 48" with bobbin stands.
1—TWISTER WOOL 160 Spindle 3½" Gauge.
6—TWISTERS COTTON 168 Spindles each 3½" Gauge Tape Driven.

near 138th Street

10—TWISTERS 216 Spindle Units 3" Tape Driven.
8—TWISTERS 252 Spindle Units 3¼" Gauge, Tape Driven.
12—TWISTERS 180 Spindle Units 4" Gauge, Tape Driven.
7—TWISTERS 200 Spindle Units 3½" Gauge, Tape Driven.
60—TWISTERS Rayon Double Deck 128 Spindles each.
3—WARPERS for 66-¾" Beam, adjustable spool racks.
5—WINDERS Foster # 30, 100 Spindles each.
1—WINDER Foster #101, 80 spindles.
4—WINDERS Lazenby 30 Spindle Units.
6—WINDERS Universal #80 Supercone.

DYEING & FINISHING:

6—BRUSHING Machines 36" to 72" Vertical & Horizontal.
1—CALENDER Friction 42", Screw & Lever Set.
1—CALENDER 50" 3 roll Screw & Lever Set.
2—CALENDERS 50" 5 roll Screw & Lever Set.
4—CALENDERS 50" & 80" 6 bowl Units.
2—CALENDERS 80" 7 bowl.
1—Set DRY CANS 41"x51" dia. 4 cans.
1—SEMI-DECATUR 68" with pump & Mtr.
1—FULL DECATUR 72" pump & mtr.
3—DOUBLERS 50" and 60".
1—DOUBLER & FOLDING Unit for cloth 90" wide.
1—DRYER Pin 72" width, fans & housing.
2—DRY HEADS & 11 Aluminum Baskets Knit-Goods.
2—DRYERS, Raw Stock 250 & 350 Lb.
1—DRYER, Truck for Wool Skeins.
1—DYEING, Skein 28 arms Monel Metal Tank.
1—EXTRACTOR 40" Belt drive.
1—EXTRACTOR 48" Motor drive.
2—EXTRACTORS 48" Raw Stock, Motor Drive.
1—EXTRACTOR Vacuum 72" pump and Motors.
2—FOLDERS 40" and 46" widths.
1—FULLING MILL Double Compartment.
1—PAIR Mt. HOPE 72" GUIDERS.
11—HUMIDIFIERS Bahnson motor driven.
1—INSPECTING Machine C&M Type H 60".
1—KETTLE Mixing 32" diameter.
1—MANGLE 42" 3 roll.
1—MANGLE 66" 2 roll heavy duty.
1—MEASURING MACHINE P&W Model AWC 80".
2—NAPPERS Single Roll 66½".
1—NAPPER Cotton 80" D.A. 20 rolls.
1—NAPPER Knit-Goods 72" D.A. 20 rolls.
3—NAPPERS Woolen 80" to 90" D.A. 24 & 36 roll Units.
1—PADDER 2 roll 66".
1—QUETSCH 50" 3 roll.
3—PRESSES Rotary 66" to 80" widths.
6 SHEARS Various Types Single & Double Blade Units.
1—SLASHER 57" Cotton 5' & 7' Dia. cylinders, size box etc.
2—SQUEEZE Sets 2 roll units 80" wide.
1—STEAMING Unit 68"x21' dia. cylinder.
1—TUBER 40" Clock & Board Folding Attachments.
3—TENTER FRAMES Clamp 10'x40", 30'x56", 30'x80".
1—SCOURING Unit 5 bowl 48" Raw Stock with Dryer.
1—BACKWASHER 2 bowl.

Miscellaneous Spare Parts, Bristle Brushes, Rubber & Wood Rolls, etc.

NORMAN M. McDOWELL ASSOCIATES

2568 Park Avenue — Bronx 51, New York

Tel.: MElrose 5-1772

Excellent Textile Equipment

LOOMS

100—Draper Model K 45" Looms, Belt Driven, 8" Bobbin.

680—Draper Automatic Looms with Slashing Auxiliary equipment.

200—C & K 2 x 1 Looms.

200—600 hook C & K Double lift jacquard heads.

32—C & K #1304 Fine Index Double lift single cylinder heads.

WINDERS

15—Universal Winders with Bunch Builders.

SLASHER

1—Howard & Bullough Two-Drum Cotton Slasher, with 7' x 5' diameter Copper Cans.

DYE PADDERS

1—Butterworth 2 Roll Dye Padder, Brass and Rubber Roll, Motor Driven.

1—Butterworth 50" Dye Padder or Mangle, Top Roll Soft Rubber, Bottom Roll Hard Rubber, Rolls approximately 12" diameter, Copper Trough, Reeves Drive, A.C. Motor.

EXTRACTORS

2—60" Steam Driven Centrifugal Extractors, Perforated Copper Baskets, Quick Opening Cover, 600 R.P.M.

1—Kranz, 42" Centrifugal Extractor, enclosed motor, perforated copper basket, quick opening safety Cover AC Motor drive.

1—Adams 28" Extractor, 5 H.P. Motor, 460 RPM, 220 volts.

CAN DRYERS

1—6 Can Dryer, Copper Cans, 23" diameter, 50" face, complete with exception of motors.

1—Textile Can Drying and Rolling-up machine, Copper Can 36" diameter, 50" Face.

1—Textile Finishing Machinery Company set of 8 Copper Cans—2 Stacks, 4 Cans to a Stack, Vertical Stacks, 50" wide.

1—Textile Finishing Machinery Co. Copper can dryer consisting of 8 cans, 23" dia. 54" face with take-up, let-off. Reeves Variable speed transmission.

1—Textile Rolling-up and steam machine equipped with copper can 40" dia. 48" face.

1—Textile Finishing Machinery Co. 8 Can Dryer, consisting of Copper Tinned Cans, 23" diameter, 54" Face with Take-up, Let-off, Reeves Drive, A.C. Motor.

1—Van Vlaanderen 5-tier, 4 section Conveyor Dryer, with Rods, 60" face, Motor Driven Fans, Airfin Heating Units.

COTTON SPINNING UNIT
5,000 Spindles, with Picking, Carding, Slubbers, Intermediates, Motor Driven Spinning Frames, Motor Driven Twisters, Speeders, Winders.

SPECIAL
DYEING EQUIPMENT

1—Rice, Barton & Fales Dye Jigg, 50" Roll, Wooden Tub, Metal-lined, complete with 2 Motors, 230 Volt, D.C.

3—Morrison 50" Stainless Steel-lined Dye Jiggs, Tilting Expanders, Rubber Beam Rolls, all accessories, including V-Belt Drive and A. C. Motor.

4—Textile Dye Jiggs, 54" Wooden Tub, 2 Rubber-covered Ball Bearing Top Rolls, 4 Stainless Steel Immersion Rolls, Bevel Gear Drive with 1 De-Laval Worm Reduction Gear Unit, direct connected to Lincoln 10 H.P. A. C. Motor, 550 volts, 60 cycle, 3 phase, 1200 RPM, with Control.

2—20' General Machine Company stainless steel Dye Becks. Complete with Reels, Pin rail and 5 H.P. Motor.

1—19' Van Vlaanderen Stainless steel lined Dye Beck. Complete with motor.

TENTER FRAMES

1—Textile 40' Pin Tenter Frame, Link Belt Drive, #3 Reeves General Electric 5 HP, 60 Cycle, 3 Phase Motor, 60" wide, General Electric Guiders, Steam Heating Coils.

1—Winsor & Jerauld 40' Tenter Frame stainless steel clips. Reeves drive. A-C Motor.

1—Van Vlaanderen 50' goods, equipped with Marshall Williams Stainless steel clips. Reeves Variable speed transmission. All accessories.

1—50' Van Vlaanderen Tenter Frame, 50" wide, Enclosed Gears, Reeves Variable Speed Transmission.

COTTAGE STEAMER

1—Robert Metcalf Cottage Steamer, 10' long x 8' wide.

DYE BECKS

1—Stainless steel lined 18" dye beck Tank 18" x 30" x 96" Single Slot reel, Brass Idler rolls. Geared link chain drive.

3—20' Stainless Steel-lined Dye Becks.

QUETSCHES

1—General Machine Co. 50" 2 roll Quetsch equipped with brass rolls.

1—Van Vlaanderen 3 roll quetsch 60" face, Motor driven, chain drive by 1 h.p. General Electric AC Motor.

1—Van Vlaanderen 65", 2-roll Quetsch, Brass Rolls, Reeves Drive, Ball Bearing.

1—General Machine Co. 2-roll Quetsch, 50" Brass Rolls, Bottom Roll approximately 9" diameter, Top Roll approximately 7" diameter, arranged for Motor Drive, no Motor.

KNITTING MACHINES

120—Scott & Williams Circular Latch Needle Knitting machines, 10" to 22", 10, 11, 12 and 13 cut. Large stock of new needles.

DOUBLERS AND TUBERS

1—Parks & Wilson 54" Doubling and Reeli

1—General Machine Co. 50" high speed tu with Reeves drive.

SCUTCHERS

1—Textile 58" Roller bearing Scutcher.

1—Textile 58" Scutcher, Roller Bearing, Pul Drive.

SEWING MACHINES

Singer, Union Special, Merrow, Metropoli and Willcox & Gibbs Flatlocks.

COUNTERS

34—Veeder-Root, Cloth Counters.

FOLDERS

1—Eastwood Gray Goods Folder, 60" wi

3—E & H Flat Folders, 45" to 60" wide.

FINISHING CALENDERS

1—Butterworth 42" Hydraulic Schreiner Bowl Calender, equipped with Cotton Steel Engraved Rolls, Gas Heated Fricti Unrolling and Batcher, Tension Rolls, co plete with Accumulator and Pump, dire connected to General Electric 3 H.P. A Motor, 50 Volts, 60 Cycle, 3 Phase, RPM. Type M.T., with Drum Controll Magnetic Switch and Grids.

GAS MIXING UNIT

1—Kemp Gas Mixing Unit with Gas burne

KETTLES

7—Copper Steam Jacketed Mixing Kettl equipped with Double Motion Bronze A tators, 70 to 350 Gallon capacity.

METERS

G. E. Steam flow meter.

DECATORS

1—Parks & Woolson 72" Semi-Decator, w Blanket, Nash Vacuum Pump and Moto

PRINTING MACHINES

1—Werner Single Color printing machine face.

2—R. B. & F. 42" Multicolor printing machin

PRINT MACHINE MOTORS

5—Print Machine Motors, 23 to 35 H.P.

POWER EQUIPMENT
Six complete power plants, just purchased from the Georgia Power Company, which include:
22—High Pressure Water Tube Boilers, 200 to 600 H.P.
8—Turbo Generator Sets, Condensing, from 275 to 2750 K. W.; all auxiliary equipment.

REMEMBER
★ ★ ★ ★
Republic Textile
EQUIPMENT COMPANY
40 WORTH STREET NEW YORK CITY
Purchase and Sale of Used Machinery
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

AGER, Tower
AGITATORS, Port. High Speed
BEAMER, 60" Van Vlaanderen
BUTTON BREAKER, Morrison 50"
CALENDERS, 3 roll, 45" VV. 52" Cav., 60" K.&G.
CALENDER, 3 roll, Friction 55"
CALENDER, 4 bowl, 2 paper 2 steel
DECATER, Semi. C&M 72"x12" dia.
DECATER, Full Gessner
DRY CANS, 12, Copper 50"x28" vert.
DRY CANS, 14, tinned copper 68"x23" hor.
DRY CANS, 12, Copper 90" face x 23" dia.
DRY CANS, 12, Copper, 12'x23" vert.
DRYERS, NET Conveyor, 56" & 60" wide
DRYERS, Loop, P & S, 30'
DYE BECKS, 4', 6' and 8'
DYE BECKS, Stainless steel 4-20'
DYE TUBS, Copper, Skein, various lengths
EMBOSSER, 54" Textile, 2 par rolls, lever or hyd. set. optional
EXTRACTORS, Beam, 50" & 60" BB
EXTRACTORS, Open Top, Hercules, 26" & 48"
EXTRACTOR, 60" VV rubber bsk. loading reel
EXTRACTORS, VV copper basket 60" & 54"
EXTRACTOR, 48" Tolhurst copper basket
FLOCK STENCIL MACHINE, with patterns
FLAT FOLDERS, Elliott & Hall Adjust.
FULLING MILLS, Hunter, #10
INFRA RED units, complete with blowers
INSPECTION TABLES, with DC motors 47"
JIGGS, Cast iron, 50" & 60"
JIGGS, Monel lined, 60"
KETTLE, Copper, tilt. Agit. Jack. 29"x34"
MEASURING MACHINE, P&W, model AWC
MOTORS, BTA, 7½, 12½, 25, 30 HP
MOTORS, over 300 GE ¾ to 5 HP 220v.
NAPPERS, double & single act. 66" & 72"
NASH PUMP, #3 Bronze casing
PALMER QUETCH, 54" Butterworth
PALMERETTE, 60" face, General Machine
PRINT MACHINE, 3 color 60"
PRINT MACHINE, 1 color 60"
PRINT MACHINE, 10" sample
QUETCH, 3 roll, Morrison 60"
REELING & DOUBLING MACHINES, VV
REEVES DRIVES, 000 Horiz. enclosed
RIBBON FIN. UNIT, Complete
RIBBON PRINTING MACHINE, 10 color
SEWING MACHINES, Arlington, Bicycle
SEWING MACHINES, Merrows
SHEAR, Hermas 4 Knife, 70" wide
SHEAR, P&W 66" double
SQUEEZE ROLLS, 1 pr. 80" on stand
TANK, rubber lined and covered
TENTER DRYER, Pin, Butwth return 1933
TENTER FRAME, W&J, 50'x50" wide
TENTER FRAME, VV 50'x60" wide
TENTER FRAME, W&J 30'x50" wide
TIGERS, Dry P&W & C&M
TUBER, Paterson, Variable speed motor
TUBERS, Van Vlaanderen
WARP COMPRESSOR CREEL
WASHER, VV 3 Compartment
WASHER, open, 60" wide 6 Comp.
WOOL WASHERS, J. Hunter, 6 & 8 ft.
WATER SOFTENER & FILTERS.

We are prepared to help you in disposing of or acquiring both complete plants and individual machines. Your inquiries cordially invited.

CADGENE MACHINERY CO.
5th Ave. & McLean Blvd.
P. O. Box 1206 Paterson 4, N. J.
Sherwood 2-6577

HARRY STEPHENSON
IMPORTER, DEALER AND MANUFACTURER
TEXTILE MACHINERY AND APPLIANCES
New and Used
River Works, Andover, Mass.

FOR SALE

BTS

1—S&U 36" Extractor.
100—C&K 4x1 Looms for 50" Cloth, 20 harness dobby heads, belt drive.
3—Gerry Rag Pickers, cyl. 30" dia x 20" wide.
1—Woonsocket 90" DA 24 roll Napper.
1—Sturtevant Multivane Blower, size 5, des. 3.

ATTENTION—COTTON, SILK, WOOLEN & WORSTED MILLS
We have largest stock of bobbins & spools and are also fully equipped to recondition, resize or re-enamel your bobbins or spools and re-tip skewers. Write us for details.

Direct Factory Agents Walter L. Parker Bobbin & Spool Co.
BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

LOUIS J. WELSH, Pres. & Treas.
JOHN J. McCLOSKEY, Inc.
ROBERT H. WELSH, V. Pres. & Gen. Mgr.
MANUFACTURERS AND DEALERS
TEXTILE MACHINERY OF ALL TYPES
APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS
NEW AND USED
Office Factory Warehouse: Collingswood, N. J.

GAINES TEXTILE MACHINERY CO.
Dealers In Rebuilt and Guaranteed Yarn Winding and Spinning Machinery
141-45 West 17th Street New York 11, N. Y.

HOSIERY MACHINES
KNITTERS - RIBBERS - LOOPERS
CYLINDERS - DIALS - TRANSFERS
RIBBER CYLINDERS & DIALS
UNION SPECIAL SEAMERS
NEEDLES FOR EXPORT
C. M. FRENCH
Commercial Trust Bldg., Philadelphia 2, Pa.

FOR SALE
30" LOOMS
75—Draper 30" Model E used looms in good condition. Complete with Lacey top motions, pulleys, shafting, beams, etc. Located in South.
AMES BAG CO.
10 East 40th St. New York, N. Y.

TEXTILE MACHINERY
FOR SALE

2—J. Hetherington & Sons Ltd. Worsted Cards, double cylinder, 50x54, with 4 lickerins. All metal and clothed with metallic wire. Workers and strippers are fillet wire covered.
1—Platt Bros. Worsted Card, double cylinder 50x54, with 4 lickerins, all metal, clothed with fillet wire.
3—Proctor & Schwartz 60" Worsted Card Feeds.
1—Prince-Smith—double can Gill Box.
3—2 spindle Gill Boxes, 14x9.
1—6 spindle Finisher 10x6.
1—Saco Lowell 12 spindle Finisher, 10x6.
6—160 spindle Prince Smith Cap Spinning Frames, 3½" pitch.
3—160 spindles Saco Lowell Spinning Frames, 3½" pitch.
1—200 spindle Saco Lowell Ring Twister, 3¾" pitch.
4—160 spindle Saco Lowell Ring Twisters, 3¾" pitch.
1—180 spindle Saco Lowell, 2 ply Dolly Roll Twister, 2¾" ring, without knee breaks.
2—Prince Smith Universal Ring Trap Twisters, 160 spindles, 4 ply, 3½" pitch, 6x2½" bobbin.
2—Prince Smith Universal Ring Trap Twisters, 188 spindles, 4" pitch, 6" traverse.
1—Prince Smith Flyer Universal Twister, 5½" pitch, 6x3½" bobbin
1—Prince Smith 200 spindle Universal Twister, 2½" vertical ring, 6" traverse, traps for 4 ply.
1—Lazenby 30 spindles Butt or Bobbin Winder, with automatic bunch builder.
4—Foster Doublers Model 25, 60 ends.
1—80 spindle, Model 30 Foster Winder with Howland Cone, Motor Driven, just overhauled. Without Slubcatchers.
3—Worcester Warp Compressors, 6 drum, 40 ends, 22⅜ scroll roll.
6—Single Drum Jackspoolers.
1—Volker Press 66" cylinder, 16" dia.
1—Parks & Woolson 4 roll Brushing Machine, 69" rolls.
1—Parks & Woolson Dewing Machine with folder 78" wide.
4—Piece Dye Kettles, stainless steel lined, complete with gearing. Equipped for motor drive, but no motor.

JOHN CLISHAM
TEXTILE MACHINERY
CASTOR & DEVEREAUX AVENUES
PHILADELPHIA 24, PA.

1—#101 Foster Winder, double motor drive, 100 spindles, equipped for paper tubes and Franklin dye springs.
1—Model "G" Barber Colman Portable Tying-in Machine.
1—Model "K" Barber Colman Portable Tying-in Machine.
1—Model 4-E Barber Colman stationary Tying-in Machine.
6—7x3½ Woonsocket Speeders, 160 spindles each.
4—8x4 Woonsocket Speeders, 160 spindles each.
1—Foster 100 spindle motor driven #30 Winder, equipped for tubes and cones.
3M—Twister Spindles, complete with bases, bolsters and knee brakes.
1—Curtis & Marble Shearer, 4 knife, #A-3809-11-33, 1933 Model with Automatic Seam Lifter, without Scray and Motor, for 44" cloth.

TEXTILE SALVAGE COMPANY
P. O. Box 1461 Charlotte 1, N. C.

• EXPERIENCE •

SPECIALIZED SERVICE •

BROAD CONTACTS •

ESTABLISHED PRESTIGE •

PURCHASE AND SALE OF INDIVIDUAL ITEMS OR COMPLETE PROPERTIES •

LIQUIDATIONS •

APPRAISALS •

PROMPT SHIPMENTS •

Leadership Through Service—

This is the reason for our position in the Textile field today

JUST A PARTIAL LISTING OF EQUIPMENT

OPENING AND PICKING

2—Kitson Card and Picker Waste Units with 24" Automatic Hopper Feeders
2—Greenhalgh Willows with Fans, belt driven
1—Woonsocket 42" Bale Breaker
2—Saco-Lowell Vertical Openers, adjustable grids, belt driven
1—Saco-Lowell Cage Section, ball bearing
2—95" Sargent Automatic Feeders, belt driven
5—Kitson Breaker and Finisher Pickers, 40", belt driven

DRAWING

60—Deliveries of Whitin Drawing, leather and cork top rolls, 12" coilers, mechanical stop motions, hank clocks

ROVING

3—Saco-Pettee 12x6 Slubbers, 72 spindles each, belt driven
3—Saco-Pettee 10x5 Intermediates, 96 spindles each, belt driven
6—Whitin & H & B 9x4½ Intermediates, 96 and 108 spindles each, self balanced carriage, belt driven
4—Woonsocket 8x3½ Speeders, chain drive, 160 spindles each, ball bearing top rolls
54—Saco-Lowell & Saco-Pettee 7x3½ Speeders, 144, 160 and 176 spindles each, belt driven
44—Saco-Pettee & Whitin 6x3 Jack Frames, 200 spindles each

COMBERS

72—Whitin Combers, 8 deliveries
14—Whitin Sliver Lap Machines, 20 ends
14—Whitin Ribbon Lap Machines, 4 deliveries

SPINNING

33—Whitin 3" gauge, band drive, Spinning Frames, 216 spindles each, 1½"—#1 flange ring
14—Whitin-Pease Model Wool Ring Spinning Frames, 3½" gauge, 1¾" rings, 180 spindles each, belt driven

WORSTED CARDS

15—Sets of Davis & Furber 48x48 2-cylinder Worsted Cards, iron cylinders. Complete description furnished upon request.

TWISTERS

10—Whitin WET Twisters, 3" gauge, 1¾" ring, 256 spindles each, steel creels, band drive, belt driven

SPOOLING, WARPING AND WINDING

17—Easton & Burnham & Draper Spoolers, band driven 4¾" gauge, 180 spindles each
25—Draper & Entwistle 54" Beam Warpers with Creels
15—Foster #12 Cone and Tube Winders, 80, 100 and 112 spindles each, motor and belt driven
2—Foster 30 Winders, 100 spindles each, cone wind, belt driven
1—Foster #25 Winder, 80 spindles, tube wind, belt driven
10—Universal #90 Winders, bunch builders, with washboard tensions and underneath wind, motor driven
98—Universal #50 Cone and Tube Winders, motor and belt driven
1—Whitin Long Chain Quiller, 128 spindles, 4¼", 4½" gauge, belt driven

LOOMS

124—Draper Modified "D" Worsted Looms, 79½" reed space, Lacey tops, belt driven
76—Draper 40" Model "E" Looms, Lacey tops, 45½" reed space, belt driven
30—Draper Model "K" Looms, 45" reed space, Lacey tops, belt driven
61—C & K 4x1 Automatic Bobbin Changing Looms, 43" between swords, 20-harness C & K dobbies, belt driven
6—Draper Model "L" Automatic Looms, 88" reed space, motor driven
50—Stafford Automatic Shuttle Changing Looms, 100" reed space, motor driven
12—C & K 2x2 Box Plush Looms, 72" reed space, 14-harness Gem heads, motor driven
Hundreds of other Looms too numerous to mention here.

LOOMS

219—Draper Model "E" Looms, 44" cloth, 49" reed space, 46¾" sand roll, 8" quills, 2 shift pick counters, friction let-off, worm take-up, 2-harness, belt driven.

FINISHING

1—3-Ton Allen Kier
30—Copper Can Dryer, 23" diameter x 42" face, vertical stacks
29—Copper Can Dryer, 23" diameter x 42" face, vertical stacks
2—Rodney Hunt Rope Soapers, rubber rolls
2—40" Dye Jiggs, cast iron tubs, rubber top rolls
2—42" Face Padders, rubber rolls, screw and lever set
1—90' Lincoln Tenter Frame, opens to 46", Winsor and Jerauld side opening clips, brass faced
1—Butterworth 50" 5-roll Chasing Calender
1—48" Granger 3-roll Friction Calender
1—Kemp Industrial Gas Unit with Spencer Turbo Compressor
3—Parks & Woolson 54" and 47" Cloth Doubling and Boarding Machines
1—48" 3-roll Water Mangle
1—Textile 50" Ager, 24' long
1—Troy Laundry Dryer
Elliot Flat Folders, 40" to 72"
1—54" Van Vlaanderen Extractor, motor driven
1—42" Schaum & Ullinger Extractor, motor driven
1—Buhlman Skein Dyeing Machine, equipped with 110 arms, 1931 Model, motor driven

PRINTING MACHINES

10—Rice, Barton & Fales 1, 3, 5, 6 and 7 color Printing Machines, with back grey drying cans

MISCELLANEOUS

Motors, Transformers, Pumps, Shafting, Pulleys, Hangers, Generator Units, Machine Shop Equipment, Office Furniture and Supplies, Typewriters, Fans. Please write us your needs

Our New York Office is especially equipped to meet the requirements of the export trade.

JACOB ZISKIND
President

CRESCENT CORPORATION

MACHINE TOOLS
ELECTRICAL EQUIPMENT

TEXTILE MACHINERY

26 FRONT STREET • FALL RIVER, MASS. • TEL. 7-9423

NEW YORK CITY OFFICE
40 WORTH ST. TEL. CORT. 7-1562

CHARLOTTE, N. C., OFFICE
817 JOHNSTON BLDG. TEL. CHARLOTTE 2-4197

SURPLUS MACHINERY LIST

Item 11001

1 COMPLETE BACK WASHING Unit

Item 11001-A

BACK WASHER

1—set of 2 bowls, 33" wide x 7' 4" long inside measurement x 14" deep
2—sets Nip Rolls—11" dia. x 28" face in #1 & #2 bowl
1—Nip Roll #2 bowl—13" dia. x 28" face, Upper roll Rubber covered, Lower roll Brass
3—brass Nip rolls 5" dia. x 28" face in each bowl

Item 11001-B

BACK WASHER DRYER

Taylor Wadsworth & Co., Lt'd., 9 cylinder—41" C side x 11' 10" long x 7' 6" high containing 9, 23½" dia. x 31" dryer drums
5—pair glass panelled doors & 1 hatch door in top slope

Item 11001-C

DOUBLE HEAD BALLING GILL BOX

C. & A. 6' 8" wide x 5' 6" long

Above trains of three—all belt & chain driven by 25 H.P. G.E. Motor, 900 R.P.M.

Item 9846

DOLLY WASHER

2 Roll, 36 inches wide, 1 string or Poteye, 58 inches back to front, 66 inches high

Item 9846-A

RUBBER MIXER

Claridge Fan No. 13, 10 x 10 inches, Square outlet, Belt driven with 12" round intake, Ball bearing, Stock moving type—Diam.

Item 4201

SIRROCCO BLOWER

Size 5—Serial 04691—Squirrel Cage Type—Fan Diam. 26 inches, Intake 32 inches Diam., Outlet 23 x 30 inches Square

Item 537

AEROFIN UNIT HEATER

With belt driven fan, 23 x 21 inches opening

Item 9383

APPROX.—100 Beam Flanges

26 x 28 inches diam. x 3/16 or 5/16 APPROX.—50—All Iron Beams 60" between heads with 26" Flanges

Item 5594

4 Cylinder P. & W. Tiger

Serial 6445—66 inches wide

Item 9764

1 Single Cylinder Shear

C. & A. 66 inch Belt Driven

Item 789

1 Voelker Steam Press

66 inches

Item 9793

1 Curtis & Marble

66 in. shear (Belt Driven)

Item 6767

1 Curtis & Marble Teasel Gig

66 inches wide 40" Diam. Single Cylinder—Belt Driven

Item R. B.

1 Woonsocket—24 roll double Acting Napper

90 inches

COLLINS & AIKMAN CORP.

SALES & SALVAGE DIVISION

Located at Our Plant "L"

6th & Upland Aves.

Upland, Delaware Co., Pa.

TEXTILE AUXILIARIES

FOR IMMEDIATE DELIVERY FROM OUR OWN STOCK:

2—60" Butterworth Mercerizing Frames
1—90" Textile Frame 50" wide
1—60" Textile Frame 60" wide
2—90" Winsor & Jerauld Frames 50" wide
1—90" Textile Frame 54" wide ST.ST. Clip
30—40" Copper Dry Cans
41—48" Copper Dry Cans
28—46" Copper Dry Cans
5—46" P.&W. Doublers & Rollers
5—42" to 48" Hookers E&H
2—40" Schoefield D.&R
1—Knuckle Baling Press
1—50" Gessner Single Apron Press
1—54" Embossing Calender
4—44" Schreiners (Hydraulic)
1—36"—3 Roll Cal. (Hydraulic)
1—Set of 2 Copper Jack Kettles with Stands & Agitators
1—New (Waldron) Cont. Back, Grey Washer
1—2 Roll Rope Washer 117" (Rubber Rolls)
1—114" Pad—Brass & Rubber Rolls
1—117" Batcher
1—98" E.&H. Hooker
1—36" 2 Roll Squeezer
2—36" Hydro Extractors
1—60" P.&W. Winder W. Selvedge Marker

TEL. DEXTER 9650 **1128 N. MAIN ST.**

PROVIDENCE, R. I.

FOR SALE

1—Schultz Fulling Machine, for fulling woolen cloth, belt driven.

1—6 String Washer, wood rollers, belt driven.

1—D. & F. 20 roll 80" double acting gear driven Napper.

1—Hercules 42" Extractor, 5 H.P., 3 phase, 220 volt, 60 cycle motor.

1—Burke Electric Motor, 15 H.P., 220 volt, 3 phase, 60 cycle, 1800 R.P.M. with sliding rails and compensator.

1—Butterworth Tenter Frame, 20' long x 66" wide with stainless steel pins, also 1—5 H.P. Motor, 3 phase, 220 volt, 60 cycle and rolling up head attachment.

All machinery is in good condition and can be inspected at Plant. Will sell very reasonably ir order to make room.

NORTH AMERICAN KNITTING CO.

Mansfield, Ohio

FOR SALE

Five Fletcher double deck up stroke frames. 208 spindles per frame. 7 inch spacing. The spindles are equipped with over-flange to twist from a 90 mm bobbin 6 inches high. Each deck individually driven by 3 HP motor, 55 volt, 3 phase, 60 cycle. Ample spare parts for sale at a reasonable price. Will also sell up to 10,000 spools for these frames. 3¼" diameter head, 4 11/16" between heads, 2⅛" diameter barrel.

The Hartford Rayon Corporation

Rocky Hill, Connecticut

FOR SALE

BUTTERWORTH CALENDER

7 ROLLS—80" FACE

3 Composition Rolls, 4 Steel Rolls, Hydraulic lift —water-cooled journals. Located in South

AMES BAG CO.

10 EAST 40TH ST. NEW YORK CITY

Cashiko Tape condensor for 48" card 112 ends four spools 28 ends complete with 36" doffer.

Four sets of Furbush cards 48x60 three card sets wood cylinders no wire. One two-cylinder Furbush breaker card wood cylinders. One Prince-Smith trap twister 126 spindles 4" ring 7" lift band driven spindles.

DOYLE & MILLER

6600 Baltimore Ave. Fernwood, Pa.

FOR SALE

2—Davis & Furber 60x48" worsted cards
1—Furbush 48x48" worsted card
1—Sargent Backwasher
6—Taylor Wordsworth combs with circles
Gilling and Finishing boxes

For further information call or write

DAVID DWARES

32 Central Ave., Pawtucket, R. I. Blackstone 1500

FOR SALE

100 Arm Buhlmann Skein Dyeing Machine

9—10 Arm Sections
2— 5 Arm Sections

Equipped with U. S. Vari Speed Drive, Piston Pump, Accumulator and Centrifugal Pump.

Price Very Reasonable

MAWACO MACHINE CO.

56 Bogart Street Brooklyn, N. Y.

FOR SALE

2 Parks & Woolson, two cylinder, 66½" six contact teasel gigs, complete with motor drives, excellent condition.

ROCK RIVER WOOLEN MILLS

JANESVILLE, WISCONSIN

FOR SALE

10,000 Universal Winding Cork-Covered Cones. Could ship immediately.

Price $150.00 per M

Samples on request.

FS-256, Textile World
330 West 42nd St., New York 18, N. Y.

UNIVERSAL TOOLS: Dandy 10 piece set: Ridgid Pipe Wrench, Channellock Pliers, Adjustable Wrench, CEETEE Pliers, Diagonal Cutter, Ball-pein Hammer, Plastic Screwdriver, Waterpump Pliers, Hacksaw & Blade, Cold Chisel.....$19.85
IMMEDIATE SHIPMENT: Overnight by Air to Anywhere USA. Price List and Order Blank Free: REMEMBER: We have it—Can get it—or it isn't made. Remit Order Today.
UNIVERSAL TOOL COMPANY, O. B. Demattels, President, 1527 Grand TW, Kansas City, Mo.

2—second-hand Wooden Hussong Raw-stock dyeing machines—150 and 300 lbs.—without motor—chain drive—with one hoist for both—$350.00 and $500.00 respectively, U. S. Currency, f.o.b. mill floor, subject unsold, crating extra at cost.

The REGENT KNITTING MILLS Limited
St. Jerome, Quebec

INDEX TO ADVERTISERS

(Continued from page 266)

Mawaco Machine Co..... 262
McCloskey, Inc., John L..... 260
McDowell, Norman M..... 258
North American Knitting Co..... 262
Paterson Silk Machinery Exch..... 256
Regent Knitting Mills Ltd..... 262
Republic Textile Equipment Co.. 259
Rock River Woolen Mills....262, 263
Schoonmaker, Robert 263
Schwartz Co., S. B..... 263
Solomon & Co., Robert..... 263
Speizman, Morris 263
Stanhope, R. C..... 263
Stephenson, Harry 260
Textile Auxiliaries 262
Textile Salvage Co..... 260
Universal Tool Co..... 262

SEARCHLIGHT SECTION

FOR SALE

A COMPLETE FRENCH WORSTED DRAWING AND SPINNING UNIT

1—Prince Smith Double Head Double Can Open Gill Box
1—Prince Smith Double Head Double Bailing Open Gill Box
1—Prince Smith Double Head Double Bailing Open Gill Box
1—8 Head Platt Reducer 1921, 1⅝" Front Roller 1-15/16" Back Roller
1—16 Head Platt Slubber 1921 1¼" Front Roller, 1⅝" Back Roller
2—16 Head Platt Inter. 1921 1" Front Roller 1⅝" Back Roller
2—24 Head Platt Inter. 1922 1" Front Roller 1⅝" Back Roller
1—48 Head Platt Rover 1905 1" Front Roller 1⅝" Back Roller
2—600 spindles S.A.C.M. Mules 1911, 1-7/16" Gauge
2—570 Spindles Platt French Worsted Mules 1¾" pitch.

Including bobbins and miscellaneous parts for the unit

JOHN CLISHAM
TEXTILE MACHINERY
CASTOR & DEVEREAUX AVENUES
PHILADELPHIA 24, PA.

TEXTILE MACHINERY

ENGINEERS & EXPORTERS
Appraisals & Liquidations
S. B. SCHWARTZ COMPANY
7301 PLUM ST. NEW ORLEANS, U.S.A.

AIR COMPRESSORS

17—355, 528, 730 & 1100 ft. Cap.

DIESEL UNITS

200 H.P. Superior 600 RPM Engine.
240 H.P. Worthington 3/60/2300 Generator.
130 H.P. DeLavergne 3/60/220 V. Generator.

R. C. STANHOPE, INC.
60 East 42nd St. New York, N. Y.

FOR SALE

60" Broadbent Extractor
42" A.T.&M. Co. Extractor
12" Daniels Rag Cutter
66" P & W Cloth Shear
No. 90 Universal Winder
No. 8 Sturt. Exhaust Blower
60" Windle No. 4 Doubling & Cloth Winding Machine
72" P&W Cloth Roll-up Mach. with Kaumagraph
3-ton Hussong Rotar Air Hoist
1000 GPM Centrif. 2-stage Pump

PAUL M. BROOMFIELD
Used & Rebuilt Wool Machinery
15 Hathaway St. Boston 10, Mass.
(Ion. 3980)

DIESELS

ROBERT SCHOONMAKER
Port Washington, Long Island, N.Y.
Phone Roslyn 1220

FOR SALE

Butterworth PIN DRYER

Complete with Housing
For Cloth 28" to 72" wide

HART & FOSTER CO.
York & Emerald Sts., Philadelphia 25, Pa.

FOR SALE

1—Collins Rebuilt Twister, 160 Spindles, 3½ ring, 5 inch gauge, 8 inch traverse with 7½ H.P. motor drive complete. Excellent condition.

ROCK RIVER WOOLEN MILLS
Janesville, Wisconsin

STAINLESS STEEL PACKAGE DYE MACHINES

. . FOR SALE . .

1—100 lb. (Franklin type) unit complete with Stainless Steel pump and motor—3 hp., 60 cy., 220 v., A.C. 5 hp. Almost new (lot # 11173)

1—50 lb. Stainless Steel Unit complete with 3 hp. motor and pump. (lot # 11174)

3—24 lb. Stainless Steel Package Dye Machines complete with 1½ hp. motor and pump. (lots # 11175-6-7)

1—6 lb. Stainless Steel Package Dye Machine complete with 1½ hp. motor and pump. (lot # 11178)

These machines are offered in lots to suit buyer at attractive prices f.o.b. Charlotte, N. C.

WIRE . . . WRITE . . . or PHONE 2-3463

THE MORRIS SPEIZMAN COMPANY
508-14 W. 5th St., Charlotte, N. C.

TWISTING
WINDING
KNITTING
BRAIDING
ROPE
MACHINERY

Complete stocks of Winding, Twisting, Braiding, Knitting and Rope Machinery at reasonable prices.

Immediate cash for your surplus Twisting, Winding, Braiding, Knitting and Rope Machinery. Send your list today.

Textile Equipment Specialists

ROBERT SOLOMON & CO., Inc.
30 WEST HOUSTON STREET • NEW YORK, N. Y.

FOR SALE

45—Whitin Tape Driven Spinning Frames, 240 spindles each, 1¾" rings, 3¼" gauge, Metallic Thread Boards, Separators, year 1922.
156—Model E Draper Looms, 40" cloth, 45" between swords, Lacey Top.
Crompton & Knowles Looms, 82" between swords, 4x4, 25 harness C. & K. Dobby Heads, individually motor driven with 1 HP motors, 440 volts, 2 phase, 60 cycles.
Skene & Devallee Wool Top Back Washers complete with creels, dryers and gill boxes.
16—Fales & Jenks Spinning Frames, 3" gauge, 256 spindles each, 1⅛" rings, band drive, 7" traverse, double boss.
3—60" McCreary Napping Machines, each with 10 rolls, with change gears and examining lights. One machine with internal gear drive; 5 HP Watson Motor, A.C. 2/60/220. 1140 RPM resistance box and fuse switch box. Two machines with roller chain drive: 5 HP Watson motor, A.C., 2/60/220 volt, 1150 RPM resistance box and fuse switch box.

INDUSTRIAL PLANTS CORPORATION
Department
PAUL F. LOWINGER & CO.
90 West Broadway. New York 7, N. Y.

AVAILABLE . . .

INDANTHRENE BORDEAUX PASTE

Available for prompt shipment 500 pounds of Indanthrene Bordeaux Paste in original container and fresh material. If interested please write to

FS-267, Textile World
520 North Michigan Ave., Chicago 11, Ill.

DON'T SWEAT OVER WET PLANT DETERIORATION ...RUST OR FUNGUS

STOP THEM WITH AMAZING DAMP-TEX ENAMEL

The Damp-Tex system of painting stops rot, rust, bacteria and fungus growth. Puts a porcelain-like finish on wet or dry wood, metal, concrete and plaster with equal ease and efficiency. Damp-Tex resists steam, 2% caustic solution and lactic acid. Comes in white and colors. Used in over 4,000 plants. Send for details of our trial offer.

Canadian Manufacturer: Standard Paint & Varnish Co.—Windsor, Canada.

INDEX TO ADVERTISERS

An * indicates additional data is in the 1944 Textile World Yearbook and Catalog.

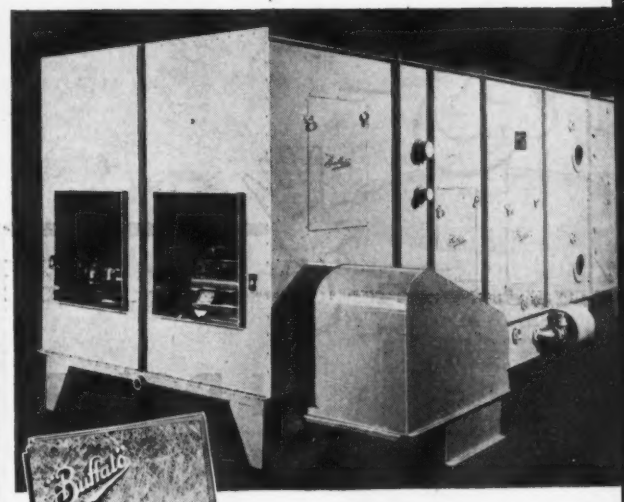
*Abbott Machine Co.... 20
*Abington Textile Machy. Co. 242
Acme Knitting Mach. & Needle Co. 245
*Acme Steel Co..... 231
Alabama State Planning Board 218
Albi Chemical Co..... 251
*Alemite Div. Stewart-Warner Corp. 57
Alexander Hamilton Institute 214
Allegheny Ludlum Steel Corp. 49
Allen Company..... 241
*Allis-Chalmers Co. 7, 14, 15
*Alloy Steel Products Co. 47
American Air Filter Co. 92
American Blower Corp... 205
American Magnesium Corp. 43
*American Monorail Co.. 34
American Resinous Chemicals Corp..... 198
American Viscose Corp. 167
American Woolen Co... 243
American Yarn & Processing Co. 250
Aralac, Inc..... 199
Arco Co., The..... 212
*Arkansas Co., Inc..... 239
Arlington Mills..... 238
Armour & Co..... 46
Armstrong-Bray & Co... 241
*Armstrong Cork Co. 16, 128
*Ashworth Bros. Inc.... 30
Atlantic Rayon Corp... 216
*Atlas Electric Devices Co. 188
Atwood Div. Farrel-Birmingham Co., Inc. 146, 147
*Bahnson Co..... 178
*Barber-Colman Co..... 233
Barnes Co., Henry K. Inside Back Cover
Becco Sales Corp..... 69
Blackstone Plush Mills. 235
*Booth Co., Benjamin... 198
Borne-Scrymser Co..... 251
Boston & Maine Railroad 181
Bradley Washfountain Co. 180
Breuer Electric Mfg. Co. 247
Brinton Co..... 243
*Brown Instrument Co... 83
Buffalo Forge Co..... 265
Burkart-Schier Chem. Co. 234
*Butterworth & Sons Co., H. W. 118
Calco Chemical Div. American Cyanamid Co. 126
*Caldwell Co., W. E.... 241
*Cameron Machine Co... 237
Carnegie-Illinois Steel Corp. 60
Century Electric Co..... 59
*Chapman Elec. Neutralizer Co..... 244
Chenev Bros..... 189
*Chicago Pneumatic Tool Co. 80
Cities Service Oil Co... 75
City of Memphis..... 174
Clipper Belt Lacer Co.. 22
Cloverleaf Mfg. Co.... 244
Cochrane Corp..... 265
Cole Mfg. Co., R. D.... 194
Commercial Factors Corp. Inside Front Cover
Cooper Co., Chas..... 247
Cotton Textile Institute 219
*Crane Co..... 94
*Crane Mfg. Co..... 245
Crocker-Wheeler Div. Joshua Hendy Iron Wks. 37
*Crompton & Knowles Loom Works..... 39
Crouse-Hinds Co..... 81
*Curtis & Marble Mach. Co. 192
Dana Warp Mills..... 235
Darnell Corp., Ltd..... 184
*Dary Ring Traveler Co. 231
*Davis & Furber Mach. Co. 237
*Dayton Rubber Mfg. Co. 28, 29
*Diagraph-Bradley Stencil Mach. Corp..... 221
Diamond Alkali Co., Standard Silicate Div. 223
Diastafor Division, Standard Brands, Inc. 200
Dietert Co., H. W..... 242
*Dinsmore Mfg. Co..... 243
Dodge Mfg. Co..... 203
*Dommerich & Co., L. F. 54
Dow Chemical Co., The 122, 136, 173
*Draper Corporation.... 1
Draper Soap Co..... 202
*Du Pont de Nemours & Co., E. I. Finishes Div. 19
Easons Adv. Services... 250
Eastern Commercial Travelers 188
Eastern Stainless Steel Corp. 41
Emery Industries, Inc... 229
Elastic Stop Nut Corp. of America..... 12
*Fairbanks, Morse & Co. 219
Falls Yarn Mills..... 206
*Faultless Caster Corp... 166
Federal Tel. & Radio Corp. 31
*Fidelity Machine Co.... 246
*Finnell System, Inc..... 266
Flexible Steel Lacing Co. 223
Fostoria Pressed Steel Corp. 217
Foxboro Co., The..... 58
*Fuller Brush Co., The.. 157
*Gates Rubber Co., The. 56
General Chemical Co... 124
General Dyestuff Corp.. 53
*General Electric Co..44, 45
Gilmer Co. L. H. (Div. of U. S. Rubber Co.) 73
Glidden Co. 50, 51
Goodrich Chemical Co., B. F., ... 93
Goodyear Tire & Rubber Co. 11
*Graton & Knight Co.... 171
Gulf Oil Corp. Gulf Refining Co. 82
Hecker, A. W..... 248
Hooker Electrochemical Co. 211
Horn Co., A. C..... 201
Houghton & Co., E. F... 76
*Howard Bros. Mfg. Co. 38
*Hunt Mach. Co., Rodney 241
*Hunter Machine Co., J. 191
Hvatt Bearings Division, General Motors Corp. 86
Hydraxtor Co. 221
*Industrial Dryer Corp... 196
*Industrial Steels, Inc.... 55
*Ingersoll-Rand 65
International Nickel Co. 74
*International Salt Co.... 209
Iselin-Jefferson Co..... 175
*Ives Co., L. T..... 247
*Jenkins Sons, M. W..... 194
Johnson & Son, S. C..5, 91
Kaumagraph Co..... 151
Keever Starch Co., The. 249
Kenyon & Son, D. R.... 251
*Lane & Bros., Inc. W. T. 241
Lazenby & Co., F. A..... 204

(Continued on page 266)

PENICK & FORD, LTD.
INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
The Starches and Gums which Penick and Ford manufacture for polishing twine and cord have been developed for every phase of this operation.
Lets try their recommendation.
Jim



Send for copy of bulletin No. 3457 which gives complete details, construction data and ratings.

Clean Tempered AIR— at Low Cost

Designed to give satisfactory air conditioning PLUS thorough air cleaning, Buffalo Wet Glass Cell Air Washers provide a new, inexpensive method of plant air purification.

By actual dust count, these new units remove 90% of all dust particles over ten microns in size. 98.5% of all dust visible without magnification is actually removed from the air stream.

The operation of Buffalo Wet Glass Cell Air Washers is simple and inexpensive. (Power costs are for driving fan and pump only, no expensive electrical hook-up is required.) Maintenance costs consist of draining and flushing out tank once a week; removing and washing filters when they become dirty enough to require it.

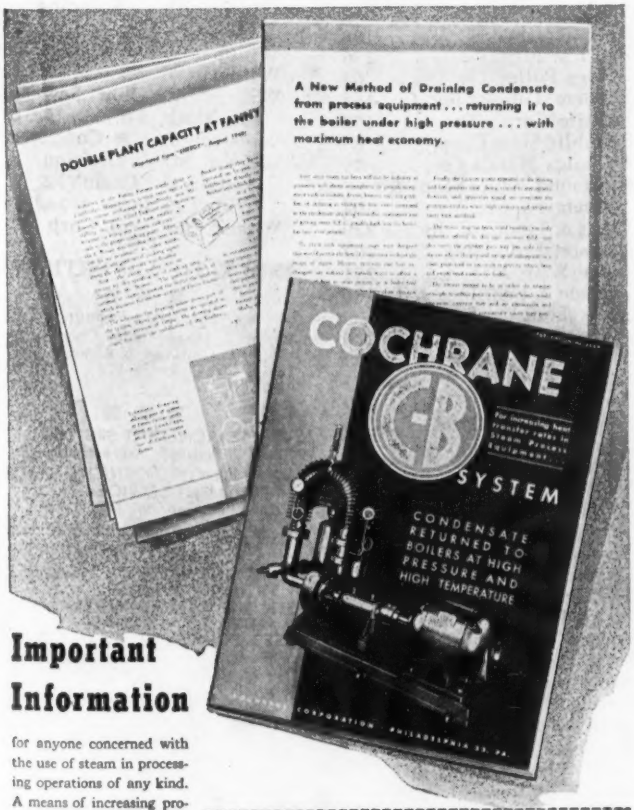
There are a number of sizes available so that you can have units of the proper capacity for any part of your plant.

If you want the full story of low cost clean air—write for the bulletin illustrated above.

BUFFALO FORGE COMPANY
184 Mortimer St. Buffalo, N. Y.
Canadian Blower & Forge Co., L
Kitchener, Ont.

ARMY E NAVY

"Buffalo" Wet Glass Ce
AIR WASHER


DOUBLE PLANT CAPACITY AT FANNY
A New Method of Draining Condensate from process equipment . . . returning it to the boiler under high pressure . . . with maximum heat economy.
COCHRANE
CB
SYSTEM
CONDENSATE RETURNED TO BOILERS AT HIGH PRESSURE AND HIGH TEMPERATURE

Important Information

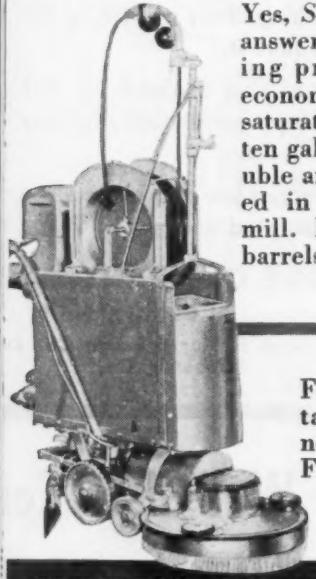
for anyone concerned with the use of steam in processing operations of any kind. A means of increasing production, improving quality and saving fuel in percentages that are almost unbelievable. A copy of this publication will be mailed upon request. Use coupon.

COCHRANE CORPORATION
3116 N. 17th Street, Philadelphia 32, Pa.
Please send me a copy of your Publication No. 3750.
Name _____
Title _____
Company _____
Address _____ City _____ State _____

"I DON'T LIKE TO BRAG, BUT..."

"When it comes to cleansers for use in scrubbing machines on mill floors, *Setol* has what it takes, —*speed!*" The chemical action of most floor-cleaning powders is too slow for their satisfactory use in scrubbing machines. *Setol*, developed expressly for that purpose, is amazingly fast ... its chemical action is instantaneous!

Setol is a mineral oil solvent that penetrates and removes even the most stubborn coatings of grimy oil and grease. Yet it is thoroughly safe—on your floors as well as in your scrubbing machine. An all-purpose cleanser, *Setol* is used with equal effectiveness for cleaning painted walls, woodwork, ceilings. Contains no harmful properties that *clean away* the finish and discourage frequent cleaning.



Yes, *Setol* is the labor-saving answer to greasy, grimy cleaning problems. And it's so economical to use, — reaches saturation with one pound in ten gallons of water. Both soluble and sudsless. Compounded in *Finnell's* own powder mill. Put up in barrels, half-barrels, and quarter-barrels.

For literature or consultation, phone or write nearest *Finnell* branch or Finnell System, Inc., 1905 East St., Elkhart, Ind.

FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES
BRANCHES IN ALL PRINCIPAL CITIES

(Continued from page 264)

Loper Co., Ralph E.... 246
Lubriplate Division, Fiske Bros. Refining Co. 210
Maguire & Co., John P. 36
Manheim Mfg. & Belting Co. 78
*Mathieson Alkali Works 2
Meese, Inc. 234
Merrow Machine Co.... 245
Minot Hooper & Co.... 176
Monomac Spinning Co. 238
*Monsanto Chemical Co. 88
*Nat'l Drying Machy. Co. 186
National Lead Co..... 66
*Nat'l Ring Traveler Co. 235
*Nat'l Starch Products... 153
New Departure, Div. of General Motors 13
N.Y.&N.J. Lubricant Co. 235
Nonquit Mills 238
Norfolk & Western Ry.. 177
Oakite Products, Inc... 231
Old Dominion Box Co. 132
Otis Elevator Co..... 52
Page Steel & Wire Div. American Chain & Cable Co., Inc..... 163
Parks-Cramer Co. 230
Penick & Ford, Ltd..... 265
*Perkins & Son, B. F..... 18
Philadelphia Quartz Co. 206
Pick Mfg. Co..... 25
Pioneer Salt Co..... 190
*Pittsburgh Corning Corp, 195
*Pittsburgh Plate Glass Co., Columbia Chemical Div. 130
Powell Co., Wm..... 134
*Powers Regulator Co... 208
Prince, Smith & Stells.. 42
Procter & Gamble Co... 207
*Proctor & Schwartz, Inc. 185
Pyrene Mfg. Co..... 168
Quaker Chemical Products Corp. 142
Railway Express Agency, Air Express Div..... 162
Rayonier Inc. 183
Red Ray Mfg. Co..... 236
Reeves Pulley Co..... 64
Refiners Lubricating Co. 164
Refinite Corp., The..... 190
Republic Steel Corp..... 85
Reynolds Metals Co..... 79
Richmond Oil, Soap & Chemical Co. 204
*Riggs & Lombard, Inc... 229
Robison Processing Co.. 202
Rome Soap Mfg. Co.... 251
Ryerson & Son, Inc., J. T. 186
St. Louis Terminal Warehouse Co. 220
*Saco-Lowell Shops 8
Sandoz Chemical Works 17
*Sarco Co., Inc..... 229
*Sargent's Sons Corp..... 40
*Scholler Bros., Inc..... 236
*Scott Testers, Inc..... 244
Scott & Williams, Inc.26, 27
Sheppard Co., R. H..... 223
Sinclair Refining Co..... 84
Sirrine & Co., J. E..... 248
Sisalkraft Co., The..... 182
SKF Industries Inc..... 77
*Smith Drum Co..... 61
Socony-Vacuum Oil Co.. 9
*Solvay Sales Corp..... 240
*Sonneborn Sons, Inc., L.. 155
*Sonoco Products Co..... 149
Southworth Machine Co. 250
Specialty Products Co... 6
Staley Mfg. Co., A. E... 35
*Standard Chemical Products, Inc. 138
*Standard Fabricators, Inc. 217
*Standard Soap Co. of Camden 204
Steelcote Mfg. Co..... 264
Steel Heddle Mfg. Co. 226, 227
Sterling Ring Trav. Co. 192
*Sturtevant Co., B. F..32, 33
Sun Oil Co..... 120
Sylvania Electric Products, Inc. 197
Taylor Instrument Cos.. 70
Tennant Co., G. H..... 172
Tennessee-Eastman Corp. 95
*Terrell Machine Co..... 236
Texas Co.....Back Cover
Textile Banking Co..... 193
Textile Machine Works89, 90
*Thomas & Skinner Steel Prod. Co. 196
Tide Water Associated Oil Co. 62, 63
Tompkins Bros. Co..... 247
*Torrington Co., The..71, 72
Tubize Rayon Corp..... 21
Trust Company of Ga... 232
Union Bay State Chem. Co. 215
Union Special Mach. Co. 179
United Autographic Register Co. 68
US Bobbin & Shuttle Co. 24
U. S. Gutta Percha Paint Co. 87
*U. S. Ring Traveler Co.: 200
U.S. Textile Machine Co. 206
*Universal Winding Co. 96, 158
Virginia Smelting Co... 249
Wabash Appliance Co.. 228
WAK Industries 246
Walder Co., Jacob..... 222
Waldron Corp. John.... 165
Wallerstein Co., Inc.... 249
Wayne Mfg. Co..... 206
West Disinfecting Co... 170
*Westinghouse Elec. Corp. 67
Westinghouse Electric Elevator Co. 48
*Westinghouse Elec. & Mfg. Co. 23, 169
West Point Foundry & Machine Co. 140
*Whitin Machine Works 10
*Whitinsville Spinning Ring Co. 235
Whitman Co., Inc., Wm. 238
Wildman Mfg. Co..... 225
Willcox & Gibbs Sewing Mach. Co..... 187
Wolstenholme & Co.... 235
Wright Mfg. Division, American Chain & Cable Co.. Inc..... 161
Wyandotte Chem. Corp. 213

INDEX TO ADVERTISERS

PROFESSIONAL SERVICES

Design & Management Corp.... 253
Lancaster, Allwine & Rommel... 253
Loper & Co., Ralph E..... 246
Sirrine & Co., J. E..... 248

SEARCHLIGHT SECTION
Classified Advertising

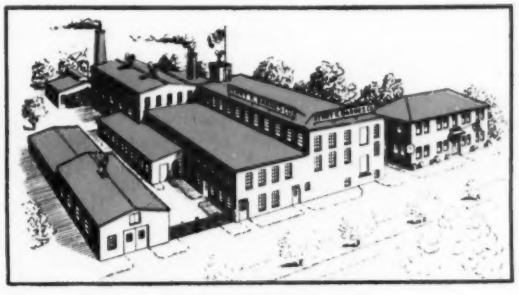
BUSINESS OPPORTUNITIES..253, 254
EMPLOYMENT SERVICE
Raymond Service, Inc., Charles P. 252
MILLS FOR SALE..... 254
MILLS WANTED 254
POSITIONS VACANT 252, 253
POSITIONS WANTED..... 252
SELLING OPPORTUNITIES..... 253
WANTED TO PURCHASE..... 254
USED EQUIPMENT 254-263
Ames Bag Co.....260, 262
Bay State Textile Co..... 260
Broomfield, Paul M..... 263
Cadgene Machinery Co..... 260
Clisham, John 260, 263
Collins & Aikman Corp..... 262
Consolidated Products Co., Inc. 257
Crescent Corporation 261
Doyle & Miller..... 262
Dwares, David 262
French, C. M..... 260
Gaines Textile Mchy. Co..... 260
Hart & Foster Co..... 263
Hartford Rayon Corp..... 262
Industrial Plants Corp..... 263
International Looms Inc..... 254
Machinery Liquidating Company 255

(Continued on page 262)

Barnes Service is Complete ..

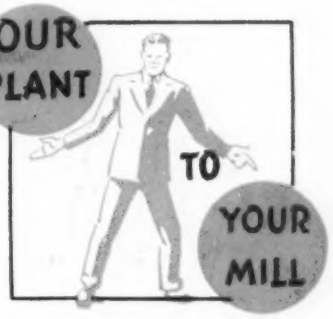
SELECTED HIDES

+



OUR OWN TANNERY

+

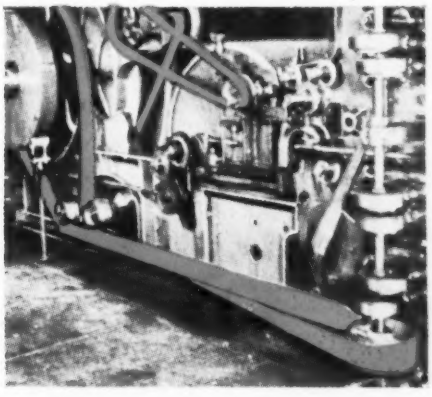


DIRECT SERVICE

That's why you get Greater Textile Production from

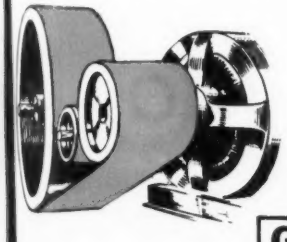
BARNES BELTINGS

Yes—Barnes produces Belting for every problem of textile production. But that only begins to tell the story of Barnes service to the Textile Industry. This service begins with the selection of the hides themselves . . . we buy only the FINEST Foreign and Premium Domestic Steer Hides . . . taken from properly fed steers killed in the best months of the year . . . hides free of grubs, barbed-wire scratches, slaughter cuts or any other imperfections. All Barnes belting is put together throughout with waterproof cement and made strictly from first-quality center stock. All belting is prestretched, run in, and tested. Special treatments against mineral oils, steam, acid fumes, etc., are given on request. Write for thickness schedule and price list.



REEMAY and BARNES OAK

For condenser drives, eccentric drives, mule drives, spinning-frame drives, Gaulois pulleys, and generators. Reemay ply goes next to pulley for high coefficient of friction; oak ply on top, for weight and firmness.

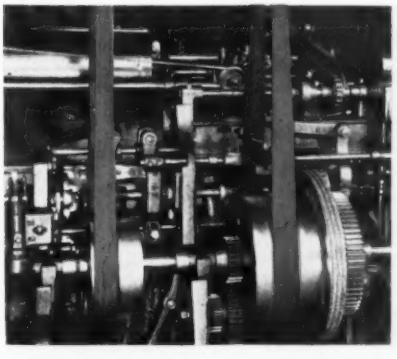


GAM-OIL

Used for longer life on idler, high-speed, and open drives; small pulleys; overloads; shockloads; and short centers. Resistant to oil and heat. Tanned in Gambier by our long-time process. Greater tensile strength than Oak Tan. High transmitting capacity. Very flexible. Specially curried. Hand processed by skilled workmen.

MINERAL TAN and BARNES OAK

For drives in wetness, excessive moisture, or high humidity conditions where shipper or flange pulleys are involved. Mineral Tan ply goes next to pulley to withstand moisture without slipping or stretching.



GAM-OIL and BARNES OAK

Specifically used on overloaded drives for immediate starts with no slipping or stretching. Gam-Oil ply, which has the highest coefficient of friction of any of our leathers, goes next to pulley. This belt is especially adaptable to picker drives which have changing loads.

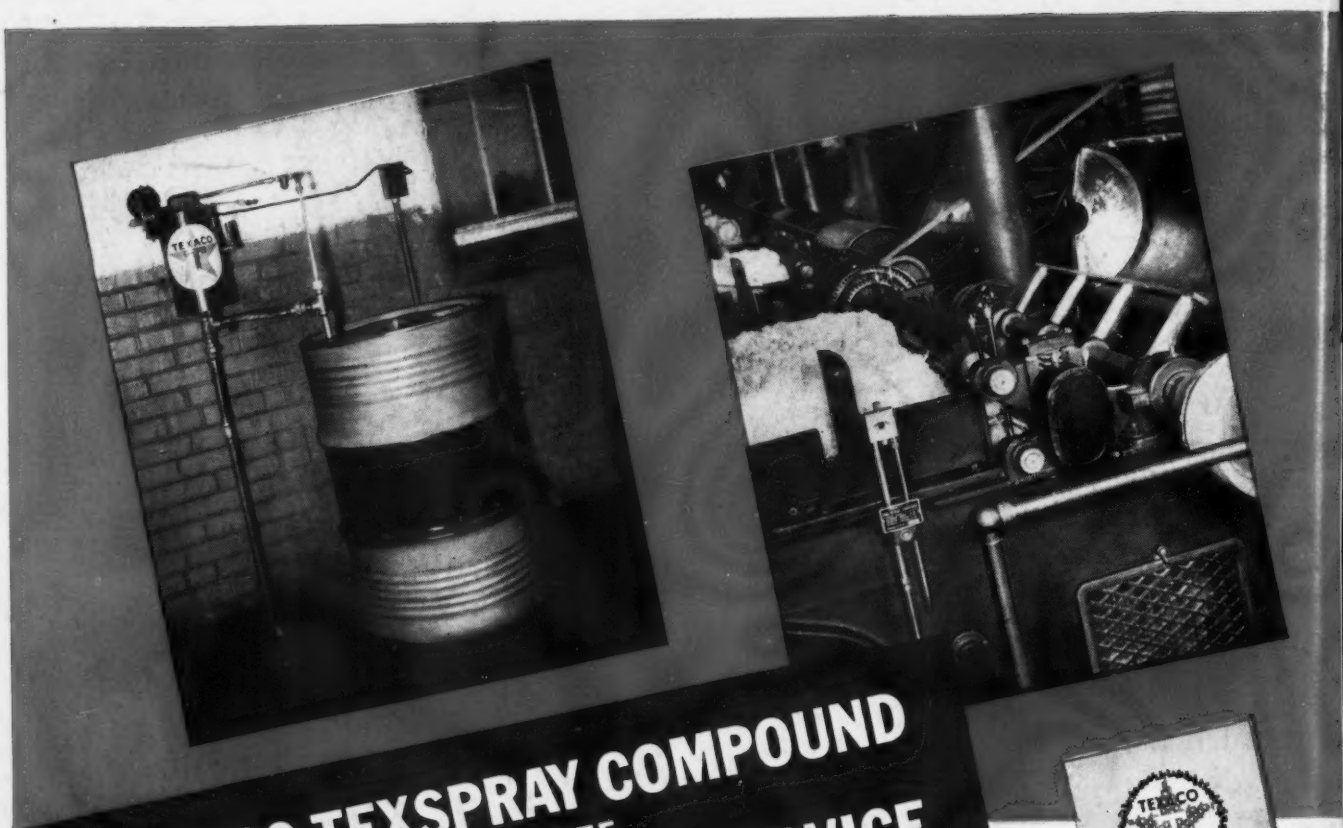
HENRY K. BARNES COMPANY • SALEM, MASSACHUSETTS

BARNES THE Textile Leather HOUSE

SINCE 1876

Where unusual knowledge of Leather is combined with long years of Textile experience

APRONS—BELTING • FLAT • ROUND • & ACCESSORIES—STRAPPING



TEXACO TEXSPRAY COMPOUND
A COMPLETE
FIBRE CONDITIONING SERVICE
Uniform Application . . . Smoother Yarns

This 20-page booklet tells the whole story. Write today for your copy of "FIBRE CONDITIONING WITH TEXSPRAY COMPOUND."

HERE is a time-tested method of fibre conditioning—a complete fibre conditioning service—used in scores of leading mills. It offers two great advantages; an exclusive conditioning compound, a more efficient method of application.

The Texaco "contact method" of fibre conditioning is the only method that assures treatment of each individual fibre of the cleaned stock. This is done in the beater chamber by means of a special applicator developed and patented by The Texas Company. The conditioning agent—*Texaco Texspray Compound*—is applied uniformly throughout the entire lap.

Texaco Texspray Compound is refined exclusively as a fibre conditioning agent. It softens brittle fibres, prevents breakage of long usable staple, assures a more uniform, easier-to-draft stock. You get uniformly smoother yarns. Finishing processes are unaffected.

Consider these other advantages, too. Use of *Texaco Texspray Compound* minimizes static. *Fire hazard is virtually eliminated* because there is no atomization by compressed air, no lint-collecting oil film on machinery and picker room walls. Reduction of dust and fly mean *healthier working conditions, better satisfied workers.*

The Texaco "contact method" of fibre conditioning is a real economy. It saves money, it improves quality of product. If you are located anywhere in the principal textile areas of the U. S., a Texaco textile engineer, specializing in fibre conditioning, will be glad to give you full information. Call the nearest of more than 2300 Texaco distributing plants in the 48 States, or write to The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO
REG. T.M.

TEXACO Lubricants
FOR THE TEXTILE INDUSTRY

TUNE IN THE TEXACO STAR THEATRE WITH JAMES MELTON EVERY SUNDAY NIGHT—CBS